

66199 U.S. PTO



07/07/97

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67477 U.S. PTO  
08/889033  
07/07/97

Attorney's Docket No. D-1083

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Box Patent Application  
Assistant Commissioner for Patents  
Washington, D.C. 20231

**NEW APPLICATION TRANSMITTAL**

Transmitted herewith for filing is the patent application of

Inventor(s): Bartholomew J. Frazzitta      Mark DePietro  
                 Randolph C. Benore              Jeffrey M. Kalman  
                 Daniel S. McIntyre

**WARNING:** Patent must be applied for in the name(s) of all of the actual inventor(s). 37 CFR 1.41(a) and 1.53(b).

For (title):

Transaction System

**CERTIFICATION UNDER 37 CFR 1.10**

I hereby certify that this New Application Transmittal and the documents referred to as enclosed therein are being deposited with the United States Postal Service on this date JULY 7, 1997, in an envelope as "Express Mail Post Office to Addressee" Mailing Label Number EM464415797US, addressed to the: Assistant Commissioner for Patents, Washington, D.C. 20231.

Ralph E. Jocke

(type or print name of person mailing paper)

Signature of person mailing paper

NOTE: Each paper or fee referred to as enclosed herein has the number of the "Express Mail" mailing label placed thereon prior to mailing. 37 CFR 1.10(b).

**WARNING:** Certificate of mailing (first class) or facsimile transmission procedures of 37 CFR 1.8 cannot be used to obtain a date of mailing or transmission for this correspondence.

(Application Transmittal [4-1]—page 1 of 9)

**1. Type of Application**

This new application is for a(n)

(check one applicable item below)

- ☒ Original (nonprovisional)  
☐ Design  
☐ Plant

**WARNING:** Do not use this transmittal for a completion in the U.S. of an International Application under 35 U.S.C. 371(c)(4), unless the International Application is being filed as a divisional, continuation or continuation-in-part application.

**WARNING:** Do not use this transmittal for the filing of a provisional application.

**NOTE:** If one of the following 3 items apply, then complete and attach ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF A PRIOR U.S. APPLICATION CLAIMED and a NOTIFICATION IN PARENT APPLICATION OF THE FILING OF THIS CONTINUATION APPLICATION.

- ☐ Divisional.  
☐ Continuation.  
☐ Continuation-in-part (C-I-P).

**2. Benefit of Prior U.S. Application(s) (35 U.S.C. 119(e), 120, or 121)**

**NOTE:** If the new application being transmitted is a divisional, continuation or a continuation-in-part of a parent case, or where the parent case is an International Application which designated the U.S., or benefit of a prior provisional application is claimed, then check the following item and complete and attach ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED.

**WARNING:** If an application claims the benefit of the filing date of an earlier filed application under 35 U.S.C. 120, 121 or 365(c), the 20-year term of that application will be based upon the filing date of the earliest U.S. application that the application makes reference to under 35 U.S.C. 120, 121 or 365(c). (35 U.S.C. 154(a)(2) does not take into account, for the determination of the patent term, any application on which priority is claimed under 35 U.S.C. 119, 365(a) or 365(b).) For a c-i-p application, applicant should review whether any claim in the patent that will issue is supported by an earlier application and, if not, the applicant should consider canceling the reference to the earlier filed application. The term of a patent is not based on a claim-by-claim approach. See Notice of April 14, 1995, 60 Fed. Reg. 20,195, at 20,205.

**WARNING:** When the last day of pendency of a provisional application falls on a Saturday, Sunday, or Federal holiday within the District of Columbia, any nonprovisional application claiming benefit of the provisional application must be filed prior to the Saturday, Sunday, or Federal holiday within the District of Columbia. See 37 C.F.R. § 1.78(a)(3).

- ☒ The new application being transmitted claims the benefit of prior U.S. application(s). Enclosed are ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED.

**3. Papers Enclosed That Are Required for Filing Date under 37 C.F.R. 1.53(b) (Regular) or 37 C.F.R. 1.153 (Design) Application**

27 Pages of specification  
8 Pages of claims  
1 Pages of Abstract  
12 Sheets of drawing

- ☐ formal  
☒ informal

**WARNING:** **DO NOT** submit original drawings. A high quality copy of the drawings should be supplied when filing a patent application. The drawings that are submitted to the Office must be on strong, white, smooth, and non-shiny paper and meet the standards according to § 1.84. If corrections to the drawings are necessary, they should be made to the original drawing and a high-quality copy of the corrected original drawing then submitted to the Office. Only one copy is required or desired. Comments on proposed new 37 CFR 1.84. Notice of March 9, 1988 (1990 O.G. 57-62).

**NOTE:** "Identifying indicia, if provided, should include the application number or the title of the invention, inventor's name, docket number (if any), and the name and telephone number of a person to call if the Office is unable to match the drawings to the proper application. This information should be placed on the back of each sheet of drawing a minimum distance of 1.5 cm. (5/8 inch) down from the top of the page." 37 C.F.R. 1.84(c)).

(complete the following, if applicable)

- ☐ The enclosed drawing(s) are photograph(s), and there is also attached a "PETITION TO ACCEPT PHOTOGRAPH(S) AS DRAWING(S)." 37 C.F.R. 1.84(b).

**4. Additional papers enclosed**

- ☐ Preliminary Amendment  
☐ Information Disclosure Statement (37 C.F.R. 1.98)  
☐ Form PTO-1449 (PTO/SB/08A and 08B)  
☐ Citations  
☐ Declaration of Biological Deposit  
☐ Submission of "Sequence Listing," computer readable copy and/or amendment pertaining thereto for biotechnology invention containing nucleotide and/or amino acid sequence.  
☐ Authorization of Attorney(s) to Accept and Follow Instructions from Representative  
☐ Special Comments  
☐ Other

**5. Declaration or oath**

- ☒ Enclosed  
Executed by

(check all applicable boxes)

- ☒ inventor(s).  
☐ legal representative of inventor(s).  
37 CFR 1.42 or 1.43.  
☐ joint inventor or person showing a proprietary interest on behalf of inventor who refused to sign or cannot be reached.  
☐ This is the petition required by 37 CFR 1.47 and the statement required by 37 CFR 1.47 is also attached. See item 13 below for fee.

- ☐ Not Enclosed.

**WARNING:** Where the filing is a completion in the U.S. of an International Application, but where a declaration is not available, or where the completion of the U.S. application contains subject matter in addition to the International Application, the application may be treated as a continuation or continuation-in-part, as the case may be, utilizing ADDED PAGE FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION CLAIMED.

- ☐ Application is made by a person authorized under 37 C.F.R. 1.41(c) on behalf of all the above named inventor(s).

*(The declaration or oath, along with the surcharge required by 37 CFR 1.16(e) can be filed subsequently).*

NOTE: It is important that all the correct inventor(s) are named for filing under 37 CFR 1.41(c) and 1.53(b).

- ☐ Showing that the filing is authorized.  
(not required unless called into question. 37 CFR 1.41(d))

## 6. Inventorship Statement

**WARNING:** If the named inventors are each not the inventors of all the claims an explanation, including the ownership of the various claims at the time the last claimed invention was made, should be submitted.

The inventorship for all the claims in this application are:

- ☒ The same.

or

- ☐ Not the same. An explanation, including the ownership of the various claims at the time the last claimed invention was made,  
☐ is submitted.  
☐ will be submitted.

## 7. Language

NOTE: An application including a signed oath or declaration may be filed in a language other than English. A verified English translation of the non-English language application and the processing fee of \$130.00 required by 37 CFR 1.17(k) is required to be filed with the application, or within such time as may be set by the Office. 37 CFR 1.52(d).

NOTE: A non-English oath or declaration in the form provided or approved by the PTO need not be translated. 37 CFR 1.69(b).

- ☒ English  
☐ Non-English  
☐ The attached translation is a verified translation. 37 C.F.R. 1.52(d).

## 8. Assignment

- ☒ An assignment of the invention to Diebold, Incorporated

- ☒ is attached. A separate ☐ "COVER SHEET FOR ASSIGNMENT (DOCUMENT) ACCOMPANYING NEW PATENT APPLICATION" or ☒ FORM PTO 1595 is also attached.

- ☐ will follow.

NOTE: "If an assignment is submitted with a new application, send two separate letters—one for the application and one for the assignment." Notice of May 4, 1990 (1114 O.G. 77-78).

**WARNING:** A newly executed "CERTIFICATE UNDER 37 CFR 3.73(b)" must be filed when a continuation-in-part application is filed by an assignee. Notice of April 30, 1993, 1150 O.G. 62-64.

## 9. Certified Copy

Certified copy(ies) of application(s)

Country	Appln. no.	Filed
Country	Appln. no.	Filed
Country	Appln. no.	Filed

from which priority is claimed

☐ is (are) attached.

☐ will follow.

NOTE: The foreign application forming the basis for the claim for priority must be referred to in the oath or declaration. 37 CFR 1.55(a) and 1.63.

NOTE: This item is for any foreign priority for which the application being filed directly relates. If any parent U.S. application or International Application from which this application claims benefit under 35 U.S.C. 120 is itself entitled to priority from a prior foreign application, then complete item 18 on the ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED.

## 10. Fee Calculation (37 C.F.R. 1.16)

A. ☒ Regular application

CLAIMS AS FILED			
Number filed	Number Extra	Rate	Basic Fee 37 C.F.R. 1.16(a) \$770.00
Total Claims (37 CFR 1.16(c)) $27 - 20 = 7$	$\times$	\$ 22.00	154.00
Independent Claims (37 CFR 1.16(b)) $1 - 3 = 0$	$\times$	\$ 80.00	0
Multiple dependent claim(s), if any (37 CFR 1.16(d)) $0$	$+$	\$260.00	0

☐ Amendment cancelling extra claims is enclosed.

☐ Amendment deleting multiple-dependencies is enclosed.

☐ Fee for extra claims is not being paid at this time.

NOTE: If the fees for extra claims are not paid on filing they must be paid or the claims cancelled by amendment, prior to the expiration of the time period set for response by the Patent and Trademark Office in any notice of fee deficiency. 37 CFR 1.16(d).

Filing Fee Calculation

\$ 924.00

- B. ☐ Design application  
(\$320.00—37 CFR 1.16(f))

Filing Fee Calculation

\$ \_\_\_\_\_

- C. ☐ Plant application  
(\$530.00—37 CFR 1.16(g))

Filing fee calculation

\$ \_\_\_\_\_

**11. Small Entity Statement(s)**

- ☐ Verified Statement(s) that this is a filing by a small entity under 37 CFR 1.9 and 1.27 is (are) attached.

**WARNING:** "Status as a small entity in one application or patent does not affect any other application or patent, including applications or patents which are directly or indirectly dependent upon the application or patent in which the status has been established. A nonprovisional application claiming benefit under 35 U.S.C. 119(e), 120, 121 or 365(c) of a prior application may rely on a verified statement filed in the prior application if the nonprovisional application includes a reference to a verified statement in the prior application or includes a copy of the verified statement filed in the prior application if status as a small entity is still proper and desired." 37 C.F.R. § 1.28(a).

(complete the following, if applicable)

- ☐ Status as a small entity was claimed in prior application  
\_\_\_\_\_/\_\_\_\_\_, filed on \_\_\_\_\_, from which benefit  
is being claimed for this application under:

35 U.S.C. ☐ 119(e),  
☐ 120,  
☐ 121,  
☐ 365(c),

and which status as a small entity is still proper and desired.

- ☐ A copy of the verified statement in the prior application is included.

Filing Fee Calculation (50% of **A**, **B** or **C** above)

\$ \_\_\_\_\_

**NOTE:** Any excess of the full fee paid will be refunded if a verified statement and a refund request are filed within 2 months of the date of timely payment of a full fee. The two-month period is not extendable under § 1.136. 37 CFR 1.28(a).

**12. Request for International-Type Search (37 C.F.R. 1.104(d))**

(complete, if applicable)

- ☐ Please prepare an international-type search report for this application at the time when national examination on the merits takes place.

**13. Fee Payment Being Made at This Time**

- ☐ Not Enclosed
- ☐ No filing fee is to be paid at this time.  
(This and the surcharge required by 37 C.F.R. 1.16(e) can be paid subsequently.)
- ☒ Enclosed
- ☒ Basic filing fee \$ 924.00
- ☐ Recording assignment  
(\$40.00; 37 C.F.R. 1.21(h))  
(See attached "COVER SHEET FOR  
ASSIGNMENT ACCOMPANYING NEW  
APPLICATION".) \$ \_\_\_\_\_
- ☐ Petition fee for filing by other than all the  
inventors or person on behalf of the inventor  
where inventor refused to sign or cannot be  
reached  
(\$130.00; 37 C.F.R. 1.47 and 1.17(h)) \$ \_\_\_\_\_
- ☐ For processing an application with a  
specification in  
a non-English language  
(\$130.00; 37 C.F.R. 1.52(d) and 1.17(k)) \$ \_\_\_\_\_
- ☐ Processing and retention fee  
(\$130.00; 37 C.F.R. 1.53(d) and 1.21(l)) \$ \_\_\_\_\_
- ☐ Fee for international-type search report  
(\$40.00; 37 C.F.R. 1.21(e)) \$ \_\_\_\_\_

NOTE: 37 CFR 1.21(l) establishes a fee for processing and retaining any application that is abandoned for failing to complete the application pursuant to 37 CFR 1.53(d) and this, as well as the changes to 37 CFR 1.53 and 1.78, indicate that in order to obtain the benefit of a prior U.S. application, either the basic filing fee must be paid, or the processing and retention fee of § 1.21(l) must be paid, within 1 year from notification under § 53(d).

Total fees enclosed

\$ 924.00

**14. Method of Payment of Fees**

- ☐ Check in the amount of \$ \_\_\_\_\_
- ☒ Charge Account No. 04-1077 in the amount of  
\$ 924.00

A duplicate of this transmittal is attached.

NOTE: Fees should be itemized in such a manner that it is clear for which purpose the fees are paid. 37 CFR 1.22(b).

## 15. Authorization to Charge Additional Fees

**WARNING:** If no fees are to be paid on filing, the following items should not be completed.

**WARNING:** Accurately count claims, especially multiple dependent claims, to avoid unexpected high charges, if extra claim charges are authorized.

- ☒ The Commissioner is hereby authorized to charge the following additional fees by this paper and during the entire pendency of this application to Account No. 04-1077:

☒ 37 C.F.R. 1.16(a), (f) or (g) (filing fees)

☒ 37 C.F.R. 1.16(b), (c) and (d) (presentation of extra claims)

**NOTE:** Because additional fees for excess or multiple dependent claims not paid on filing or on later presentation must only be paid or these claims cancelled by amendment prior to the expiration of the time period set for response by the PTO in any notice of fee deficiency (37 CFR 1.16(d)), it might be best not to authorize the PTO to charge additional claim fees, except possibly when dealing with amendments after final action.

☒ 37 C.F.R. 1.16(e) (surcharge for filing the basic filing fee and/or declaration on a date later than the filing date of the application)

☒ 37 C.F.R. 1.17 (application processing fees)

**WARNING:** While 37 CFR 1.17(a), (b), (c) and (d) deal with extensions of time under § 1.136(a), this authorization should be made only with the knowledge that: "Submission of the appropriate extension fee under 37 C.F.R. 1.136(a) is to no avail unless a request or petition for extension is filed." (Emphasis added). Notice of November 5, 1985 (1060 O.G. 27).

☐ 37 C.F.R. 1.18 (issue fee at or before mailing of Notice of Allowance, pursuant to 37 C.F.R. 1.311(b))

**NOTE:** Where an authorization to charge the issue fee to a deposit account has been filed before the mailing of a Notice of Allowance, the issue fee will be automatically charged to the deposit account at the time of mailing the notice of allowance. 37 CFR 1.311(b).

**NOTE:** 37 CFR 1.28(b) requires "Notification of any change in loss of entitlement to small entity status must be filed in the application . . . prior to paying, or at the time of paying, . . . issue fee." From the wording of 37 CFR 1.28(b): (a) notification of change of status must be made even if the fee is paid as "other than a small entity" and (b) no notification is required if the change is to another small entity.

## 16. Instructions as to Overpayment

☒ Credit Account No. 04-1077

☐ Refund

Reg. No. 31,029

Tel. No. ( 330 ) 722-5143

  
SIGNATURE OF ATTORNEY

Ralph E. Jocke

(type or print name of attorney)

231 South Broadway

P.O. Address

Medina, Ohio 44256



☒ **Incorporation by reference of added pages**

*(check the following item if the application in this transmittal claims the benefit of prior U.S. application(s) (including an international application entering the U.S. stage as a continuation, divisional or C-I-P application) and complete and attach the ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED)*

☒ Plus Added Pages for New Application Transmittal Where Benefit of Prior U.S. Application(s) Claimed

Number of pages added 5

☐ Plus Added Pages for Papers Referred to in Item 4 Above

Number of pages added \_\_\_\_\_

☐ Plus "Assignment Cover Letter Accompanying New Application"

Number of pages added \_\_\_\_\_

☐ **Statement Where No Further Pages Added**

*(if no further pages form a part of this Transmittal, then end this Transmittal with this page and check the following item)*

☐ This transmittal ends with this page.

# **ADDED PAGES FOR APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED**

NOTE: "In order for an application to claim the benefit of a prior filed copending national application, the prior application must name as an inventor at least one inventor named in the later filed application and disclose the named inventor's invention claimed in at least one claim of the later filed application in the manner provided by the first paragraph of 35 U.S.C. 112." 37 CFR 1.78(a).

NOTE: "In addition the prior application must be (1) complete as set forth in § 1.51, or (2) entitled to a filing date as set forth in § 1.53(b) and include the basic filing fee set forth in § 1.16; or (3) entitled to a filing date as set forth in § 1.53(b) and have paid therein the processing and retention fee set forth in § 1.21(f) within the time period set forth in § 1.53(d)." 37 CFR 1.78(a).

## **17. Relate Back**

**WARNING:** If an application claims the benefit of the filing date of an earlier filed application under 35 U.S.C. 120, 121 or 365(c), the 20-year term of that application will be based upon the filing date of the earliest U.S. application that the application makes reference to under 35 U.S.C. 120, 121 or 365(c). (35 U.S.C. 154(a)(2) does not take into account, for the determination of the patent term, any application on which priority is claimed under 35 U.S.C. 119, 365(a) or 365(b).) For a c-i-p application, applicant should review whether any claim in the patent that will issue is supported by an earlier application and, if not, the applicant should consider canceling the reference to the earlier filed application. The term of a patent is not based on a claim-by-claim approach. See Notice of April 14, 1995, 60 Fed. Reg. 20,195, at 20,205.

(complete the following, if applicable)

☒ Amend the specification by inserting, before the first line, the following sentence:

### **A. 35 U.S.C. 119(e)**

NOTE: "Any nonprovisional application claiming the benefit of one or more prior filed copending provisional applications must contain or be amended to contain in the first sentence of the specification following the title a reference to each such prior provisional application, identifying it as a provisional application, and including the provisional application number (consisting of series code and serial number)." 37 C.F.R. § 1.78(a)(4).

☒ "This application claims the benefit of U.S. Provisional Application(s) No(s).:

### **APPLICATION NO(S).:**

60 / 045,794  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### **FILING DATE**

May 7, 1997   "  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**B. 35 U.S.C. 120, 121 and 365(c)**

NOTE: "Any nonprovisional application claiming the benefit of one or more prior filed copending nonprovisional applications or international applications designating the United States of America must contain or be amended to contain in the first sentence of the specification following the title a reference to each such prior application, identifying it by application number (consisting of the series code and serial number) or international application number and international filing date and indicating the relationship of the applications. Cross-references to other related applications may be made when appropriate. (See § 1.14(b))." 37 C.F.R. § 1.78(2).

- ☐ "This application is a
- ☐ continuation
  - ☐ continuation-in-part
  - ☐ divisional

of copending application(s)

- ☐ application number 0 / \_\_\_\_\_ filed on \_\_\_\_\_"
- ☐ International Application \_\_\_\_\_ filed on \_\_\_\_\_ and which designated the U.S."

NOTE: The proper reference to a prior filed PCT application that entered the U.S. national phase is the U.S. serial number and the filing date of the PCT application that designated the U.S.

NOTE: (1) Where the application being transmitted adds subject matter to the International Application, then the filing can be as a continuation-in-part or (2) if it is desired to do so for other reasons then the filing can be as a continuation.

- ☐ "The nonprovisional application designated above, namely application \_\_\_\_\_ / \_\_\_\_\_, filed \_\_\_\_\_, claims the benefit of U.S. Provisional Application(s) No(s):

**APPLICATION NO(S):**

**FILING DATE**

_____ / _____	_____ "
_____ / _____	_____ "
_____ / _____	_____ "

NOTE: The deadline for entering the national phase in the U.S. for an international application was clarified in the Notice of April 28, 1987 (1079 O.G. 32 to 46) as follows:

"The Patent and Trademark Office considers the International application to be pending until the 22nd month from the priority date if the United States has been designated and no Demand for International Preliminary Examination has been filed prior to the expiration of the 19th month from the priority date and until the 32nd month from the priority date if a Demand for International Preliminary Examination which elected the United States of America has been filed prior to the expiration of the 19th month from the priority date, provided that a copy of the international application has been communicated to the Patent and Trademark Office within the 20 or 30 month period respectively. If a copy of the international application has not been communicated to the Patent and Trademark Office within the 20 or 30 month period respectively, the international application becomes abandoned as to the United States 20 or 30 months from the priority date respectively. These periods have been placed in the rules as paragraph (h) of § 1.494 and paragraph (i) of § 1.495. A continuing application under 35 U.S.C. 365(c) and 120 may be filed anytime during the pendency of the international application."

**18. Relate Back—35 U.S.C. 119 Priority Claim for Prior Application**

The prior U.S. application(s), including any prior International Application designating the U.S., identified above in item 17B, in turn itself claim(s) foreign priority(ies) as follows:

country	appln. no.	filed on
The certified copy(ies) has (have)		
<input type="checkbox"/> been filed on _____, in prior application 0 / _____, which was filed on _____.		
<input type="checkbox"/> is (are) attached.		

**WARNING:** The certified copy of the priority application that may have been communicated to the PTO by the International Bureau may **not** be relied on without any need to file a certified copy of the priority application **in the continuing application**. This is so because the certified copy of the priority application communicated by the International Bureau is placed in a folder and is not assigned a U.S. serial number unless the national stage is entered. Such folders are disposed of if the national stage is not entered. Therefore, such certified copies may not be available if needed later in the prosecution of a continuing application. An alternative would be to physically remove the priority documents from the folders and transfer them to the continuing application. The resources required to request transfer, retrieve the folders, make suitable record notations, transfer the certified copies, enter and make a record of such copies in the Continuing Application are substantial. Accordingly, the priority documents in folders of international applications that have not entered the national stage may not be relied on. Notice of April 28, 1987 (1079 O.G. 32 to 46).

**19. Maintenance of Copendency of Prior Application**

**NOTE:** The PTO finds it useful if a copy of the petition filed in the prior application extending the term for response is filed with the papers constituting the filing of the continuation application. Notice of November 5, 1985 (1060 O.G. 27).

**A. ☐ Extension of time in prior application**

(This item **must** be completed and the papers filed **in the prior application**, if the period set in the prior application has run.)

- ☐ A petition, fee and response extends the term in the pending **prior** application until \_\_\_\_\_.
- ☐ A **copy** of the petition filed in prior application is attached.

**B. ☐ Conditional Petition for Extension of Time in Prior Application**

(complete this item, if previous item not applicable)

- ☐ A conditional petition for extension of time is being filed in the pending **prior** application.
- ☐ A **copy** of the conditional petition filed in the prior application is attached.

**20. Further Inventorship Statement Where Benefit of Prior Application(s) Claimed**

NOTE: "If the continuation, continuation-in-part, or divisional application is filed by less than all the inventors named in the prior application a statement **must** accompany the application when filed requesting deletion of the names of the person or persons who are not inventors of the invention being claimed in the continuation, continuation-in-part, or divisional application." 37 CFR 1.62(a) [emphasis added]. (dealing with the file wrapper continuation situation).

NOTE: "In the case of a continuation-in-part application which adds and claims additional disclosure by amendment, an oath or declaration as required by § 1.63 must be filed. In those situations where a new oath or declaration is required due to additional subject matter being claimed, additional inventors may be named in the continuing application. In a continuation or divisional application which discloses and claims only subject matter disclosed in a prior application, no additional oath or declaration is required and the application must name as inventors the same or less than all the inventors in the prior application." 37 CFR 1.60(c) (dealing with the continuation situation).

(complete applicable item (a), (b) and/or (c) below)

- (a) ☒ This application discloses and claims only subject matter disclosed in the prior application whose particulars are set out above and the inventor(s) in this application are

☒ the same.

☐ less than those named in the prior application. It is requested that the following inventor(s) identified for the prior application be deleted:

\_\_\_\_\_  
(type name(s) of inventor(s) to be deleted)

- (b) ☐ This application discloses and claims additional disclosure by amendment and a new declaration or oath is being filed. With respect to the prior application, the inventor(s) in this application are

☐ the same.

☐ the following additional inventor(s) have been added:

\_\_\_\_\_  
(type name(s) of inventor(s) to be added)

- (c) The inventorship for all the claims in this application are

☒ the same.

☐ not the same. An explanation, including the ownership of the various claims at the time the last claimed invention was made

☐ is submitted.

☐ will be submitted.

**21. Abandonment of Prior Application (if applicable)**

- ☐ Please abandon the prior application at a time while the prior application is pending, or when the petition for extension of time or to revive in that application is granted, and when this application is granted a filing date, so as to make this application copending with said prior application.

**NOTE:** According to the Notice of May 13, 1983 (103, TMOG 6-7), the filing of a continuation or continuation-in-part application is a proper response with respect to a petition for extension of time or a petition to revive and should include the express abandonment of the prior application conditioned upon the granting of the petition and the granting of a filing date to the continuing application.

**22. Petition for Suspension of Prosecution for the Time Necessary to File an Amendment**

**WARNING:** "The claims of a new application may be finally rejected in the first Office action in those situations where (1) the new application is a continuing application of, or a substitute for, an earlier application, and (2) all the claims of the new application (a) are drawn to the same invention claimed in the earlier application, and (b) would have been properly finally rejected on the grounds of art of record in the next Office action if they had been entered in the earlier application." MPEP, § 706.07(b).

**NOTE:** Where it is possible that the claims on file will give rise to a first action final for this continuation application and for some reason an amendment cannot be filed promptly (e.g., experimental data is being gathered) it may be desirable to file a petition for suspension of prosecution for the time necessary.

(check the next item, if applicable)

- ☐ There is provided herewith a Petition To Suspend Prosecution for the Time Necessary to File An Amendment (New Application Filed Concurrently)

**23. Small Entity (37 CFR § 1.28(a))**

- ☐ Applicant has established small entity status by the filing of a verified statement in parent application / \_\_\_\_\_ on \_\_\_\_\_ .
- ☐ A copy of the verified statement previously filed is included.

**WARNING:** "Status as a small entity in one application or patent does not affect any other application or patent, including applications or patents which are directly or indirectly dependent upon the application or patent in which the status has been established. Applications filed as continuations, divisions or continuations-in-part of a parent application must include a reference to a verified statement filed in the parent application if status as a small entity is still proper and desired." 37 CFR § 1.28(a).

**24. NOTIFICATION IN PARENT APPLICATION OF THIS FILING**

- ☐ A notification of the filing of this  
(check one of the following)
- ☐ continuation
  - ☐ continuation-in-part
  - ☐ divisional

is being filed in the parent application, from which this application claims priority under 35 U.S.C. § 120.

APPLICATION FOR UNITED STATES LETTERS PATENT

Title:	Transaction System
Inventors:	Bartholomew J. Frazzitta Randolph C. Benore Daniel S. McIntyre Mark DePietro Jeffrey M. Kalman
Docket:	D-1083

## TECHNICAL FIELD

This invention relates to equipment and systems used for carrying out transactions. Specifically, this invention relates to a system for carrying out transactions between customers and a service provider, which transactions may relate to banking, gaming, ticketing, bill paying, pharmacy, postal or other services.

## BACKGROUND ART

For hundreds of years many types of commercial transactions have been carried out the same way. Customers stand in line to be serviced by an individual who acts as a service provider. The service provider is positioned behind a window, desk or counter. Common examples of situations in which customers are served using this approach are in banking, gaming, post offices, pharmacies, and ticketing for movie theaters and sporting events.

Studies have shown that in this type of service environment there is often considerable time when the service provider is not working productively. This is due to a variety of factors. One factor is that a customer is not ready to start a transaction when they reach the front of the line at the counter or window. A common example is found in banking.

Customers often stand in line to cash or deposit checks. Many customers do not endorse the checks until they reach the teller window. As a result, the teller who is the service provider in that situation, must wait while the customer endorses their checks. Another example is found in a gaming environment such as at a race track. The customer who reaches the betting window is often still contemplating further bets, and the clerk is required to wait while the customer makes their final selections.



Another example of unproductive time for a service provider is encountered in situations where the service provider is required to wait for equipment to operate. For example, in the banking environment if a customer is cashing a check, the teller often has to wait for approval to be received. While computerized systems are often used for this purpose, there is still a time lag. After the authorization is obtained, the teller often encounters another delay while a counting machine counts out the money for the customer. Delays waiting for equipment to operate also occur in situations such as in a ticketing environment. If a customer is buying tickets, such as tickets to a sporting event using a credit card, the cashier at the ticket window is required to wait while the customer's credit card is authorized electronically. Once the credit card is authorized, there is often further delay while printing equipment prints the customer's tickets.

A further cause of unproductive time in transaction environments is the time taken by customers to verify what has been provided to them. For example, in a banking environment a customer who has withdrawn cash or cashed a check, may stand at the teller window and recount the money. Likewise, at a gaming window a customer who has been provided with chips may count their chips. Customers who are making payments with credit cards are required to sign a slip and wisely check for the correctness of the amount stated. However, while the customer performs these activities the service provider is not performing useful work.

A further drawback associated with the conventional approach to performing service transactions is a lack of security. Many types of transactions that are performed at a counter or window involve handling significant sums of cash. Because the service provider is

accessible to persons waiting to be served there is a greater possibility of robbery. In addition, because the service provider is accessible, there is a risk that a robber may cause physical harm to the service provider.

Machines have been developed to automate some types of transactions. However, machines are only suitable for performing transactions that are generally the same every time. Many transaction environments involve so many variations that a human service provider is essential.

Another type of system has been developed for servicing customers is used primarily in drive through banking environments. Such systems involve external island stations outside of a bank building. Customers position their cars adjacent to the external stations. Banking documents are transmitted between the customers in their cars and a teller inside the bank using carriers which are moved through tubes by air pressure. The teller in the bank and the customers communicate through microphone and speaker type systems. While such systems provide the convenience of in car banking for customers, they are also limited in the number and type of transactions that can be conducted. In addition, because customers perform all of the usual activities associated with conducting transactions at a bank teller window, as well as additional activities associated with positioning themselves and their car, the tellers operating the system still encounter considerable non-productive time.

Thus, there exists a need for a transaction system that is suitable for use in carrying out many types of transactions, which reduces unproductive time for service providers and which is economical to install and use.

## DISCLOSURE OF INVENTION

It is an object of the present invention to provide a system for carrying out transactions between a customer and a service provider.

It is a further object of the present invention to provide a system for carrying out transactions between a customer and a service provider that is more efficient by enabling a service provider to service more customers in a given time period.

It is a further object of the present invention to provide a system for carrying out transactions between a customer and a service provider that makes more effective use of floor space within a service facility.

It is a further object of the present invention to provide a system for carrying out transactions between a customer and a service provider that provides greater security.

It is a further object of the present invention to provide a system for carrying out transactions between a customer and a service provider that is readily installed in a service facility.

It is a further object of the present invention to provide a system for carrying out transactions between a customer and a service provider that is readily expanded.

It is a further object of the present invention to provide a system for carrying out transactions between a customer and a service provider that increases customer satisfaction by allowing the customer to begin the transaction as soon as he/she is ready.

It is a further object of the present invention to provide a system for carrying out transactions between a customer and a service provider that provides a customer with information between transactions.

It is a further object of the present invention to provide a system for carrying out transactions between a customer and a service provider that may be used for carrying out many different types of transactions.

It is a further object of the present invention to provide a system for carrying out transactions between a customer and a service provider that indicates to the service provider the proper order in which to service customers.

Further objects of the present invention will be made apparent in the following Best Modes for Carrying Out Invention and the appended claims.

The foregoing objects are accomplished in a preferred embodiment of the invention by a system which includes a service provider (SP) station and a plurality of customer stations. The service provider station includes a visual display and a closed circuit television (CCTV) camera. The service provider station also includes a device for transmitting and receiving audio signals such as a microphone and speaker unit. The service provider station also preferably includes a pneumatic tube carrier delivery and receiving device. A queuing display is also included at the service provider station to indicate to the service provider the customer station which should be serviced next.

Each of the customer stations includes a visual display that can be selectively connected to the CCTV camera at the service provider station. The customer station also includes a CCTV camera that can be selectively connected to the visual display at the service provider station. The customer station also includes an audio transmission and receiving device which enables a customer to communicate orally with a service provider at the service provider station. Finally, the customer station also includes a device for delivering and

receiving a pneumatic tube carrier that can be transmitted through a tube by pressure or vacuum.

The service provider station is connected to each of a plurality of customer stations. Tubing for transmitting a pneumatic carrier extends between the service provider station and each of the customer stations. The service provider station also includes a control unit that enables a service provider to connect to and communicate with a customer at a selected customer station.

The preferred embodiment of the system further includes a video material presentation device which provides video program material. The presentation device is connected to the customer stations through a video switching device. The video material presenting device provides video information that is intended to be of interest to the customers who use the system. The video switching device operates to present the video material on the display of the customer station except when the customer and the service provider are in communication.

When the customer approaches the customer station he or she is enabled to contact the service provider. The video switching device responds to the service provider so that the service provider is in visual and audio communication with the customer at the customer station. This enables the service provider to communicate with the customer as well as to receive documents from the customer through the carrier which is transmitted through a pneumatic tube.

Although the customer conducting transactions at the customer station will still engage in activities which in other environments would result in unproductive time for the service

provider, the service provider is enabled to switch to communication with other customer stations to move other transactions forward while waiting for the customer. The ability of the service provider to minimize unproductive time while waiting for the customer improves service for all customers using the system. The queuing display at the service provider station indicates the customer station where the next customer who should be serviced is located.

The preferred embodiment of the system includes a novel customer station which is enabled to be installed as an integral part of a wall of a building in which the transactions are carried out. The customer station includes a work surface and other amenities for customers carrying out transactions, as well as privacy from customers at nearby stations. The customer stations are also constructed to be readily installed and serviced.

#### BRIEF DESCRIPTION OF DRAWINGS

Figure 1 is a front elevational view of a customer station of a preferred embodiment of the system of the present invention.

Figure 2 is a side view of the frame and components of the customer station shown in Figure 1.

Figure 3 is a top sectional view of the customer station taken along line 3-3 in Figure 1.

Figure 4 is a right front perspective view of the customer interface of the customer station shown in Figure 1.

Figure 5 is a right front perspective view of the frame and components of the customer station.

Figure 6 is a right rear perspective view of the frame and components shown in Figure 5.

Figure 7 is a right top perspective view of the frame and components shown in Figure 5.

Figure 8 is an elevational view of a first embodiment of a service provider station.

Figure 9 is an elevational view of a second embodiment of a service provider station.

Figure 10 is a top schematic view of a service provider station and customer stations used in a transaction system of an embodiment of the present invention.

Figure 11 is a side schematic view of the system shown in Figure 10.

Figure 12 is a schematic view showing the electrical and pneumatic connections between the components of the system shown in Figure 10.

#### BEST MODES FOR CARRYING OUT INVENTION

Referring now to the drawings and particularly to Figure 10 there is shown therein an embodiment of the transaction system of the present invention generally indicated 10. The system is used within a building or facility generally indicated 12, in which transactions are conducted. The embodiment of the system shown is specifically adapted for conducting banking type transactions. It should be understood however that the present invention may be used in a variety of transaction environments including gaming, ticketing, pharmacy, postal and other business environments where customers are served by a service provider positioned behind a desk, counter or window.

The system of the present invention includes a service provider (SP) station generally indicated 14. A service provider generally indicated 16 operates the components and

equipment at the SP station. In the case of the embodiment of the system shown, the service provider is a teller or other bank employee that carries out transactions for customers in a manner which is later described.

The system also includes a plurality of customer stations 18. Customers generally indicated 20, operate the customer stations 18 to carry out transactions with the service provider 16 in a manner that is later described in detail.

The customer stations 18 and service provider station 14 are connected through a pneumatic tube type transport system generally indicated 22. As shown in Figure 10 each customer station 18 is connected to the SP station by a carrier tube 30. The customer station includes a pneumatic pressure/vacuum tube carrier delivery and receiving device 24 which can send a carrier 26 to the SP station and which can receive a carrier from the SP station (see Figure 11). The SP station also includes an air pressure tube carrier and delivery and receiving device 28 which is used to send the carrier 26 to the customer station 18, and to receive the carrier from the customer station.

Carrier delivery and receiving devices 24 and 28 are connected by the carrier tube 30 through which carrier 26 passes. The carrier is propelled through the tube by air pressure or vacuum produced by blowers 32 and 34. Movement of the carrier is accomplished by operating the blowers to produce a differential in air pressure in the tube which is sufficient to move the carrier from one station to another. In a preferred embodiment of the invention blowers 32 and 34 are a blower package, which along with the tube and carriers are commercially available from Diebold, Incorporated.



In the preferred embodiment of the present invention the SP station is positioned within a secure room generally indicated 36 within the building 10. Positioning the SP station 14 in such a secure room enhances security and minimizes the risk that the service provider will be subject to robbery or physical harm. In addition, in the preferred embodiment the customer stations 18 are built into a building wall generally indicated 38. Building wall 38 is preferably an interior wall of the building 12. As later discussed, an advantage of the present invention is that the customer stations may be readily installed in a building wall and require a minimum of surrounding floor space.

The service provider (SP) station 14 of system 10 is shown in greater detail in Figure 8. The SP station includes two carrier delivery and receiving terminal devices 28. Carriers 26 may be transmitted to and from the customer stations 18 through the terminal devices 28. The delivery and receiving terminal devices 28 each include a control panel 40. The control panel 40 includes buttons which the service provider presses to control the operation of blowers 32 and 34 which cause the carriers 26 to move.

The service provider station 14 further includes a visual display 42. Visual display 42 is preferably a closed circuit television (CCTV) monitor. SP station 14 further includes a CCTV camera 44. Camera 44 is preferably positioned adjacent to the visual display 42 so that when the service provider views the customer at a customer station on display 42, camera 44 provides an image of the service provider on a visual display at the customer station. The service provider appears to be looking at the customer as a result of this arrangement.

SP station 14 further includes a communication selector unit 46. Communication selector unit 46 includes an audio transmission and receiving device including a microphone and a speaker. Unit 46 further preferably includes selector buttons or other input means by which the service provider may selectively actuate to establish video and audio connections  
5 between the SP station and a selected customer station. The video/audio communication selector unit 46 further preferably includes an indicator such as a light which is used to indicate to the service provider that a customer is present at a particular customer station. This is done in a manner that is later explained.

The communication selector unit 46 is in operative connection with a communication  
10 controller (not shown). The communication controller is preferably a programmable microprocessor based controller which is operative to selectively establish audio and video communication between the SP station and a particular customer station responsive to the service provider's inputs to unit 46. The SP station 14 is also in operative connection through the communication controller with a video switching device generally indicated 48 in  
15 Figure 12. The video switching device is preferably a video matrix switcher commercially available from Diebold, Incorporated. The video switching device is operatively connected to the camera 44 and display 42 of the SP station 14 as well as to the visual displays and cameras located at the customer stations.

A video material presentation device generally indicated 50 is operatively connected to  
20 the video switching device 48. In the preferred form of the invention the video material presentation device is a computer which includes a data store therein. The data store stores data representative of video and/or audio material. In the preferred embodiment the

video/audio material stored in the data store of the computer is advertising, promotional information or other material which is intended to be of interest to customers who use the system. In alternative embodiments the video material presentation device could be a playback device such as a VCR, or an online or broadcast source.

5           The computer 50 is preferably connected to a data transmission line 52 through a communications device 54. The communications device is preferably a modem and the data transmission line is a phone line or other device which is suitable for placing the computer that serves as the video material presentation device in communication with a remote data source. As will be appreciated by those skilled in the art this configuration enables the video and/or audio information that is stored in the computer to be changed and updated on a scheduled or unscheduled basis from a local or remote location. This enables the information stored in the data store of the computer to be maintained as current and accurate as may be desired by the operator of the system.

10           It should be understood that the computer which serves as the video material presentation device may be located immediately adjacent to the SP station 14, or may be remotely located and connected to the video switching device 48 by a data transmission line, radio link, or other communications apparatus.

15           The SP station 14 also includes a queuing indicator 47. The queuing indicator 47 includes a display 49, such as an LED or LCD type. The queuing indicator 47 also preferably includes a processor and a memory therein which enables it to carry out programmed functions and also serves as a timing device. The queuing indicator 47 provides an indication on its display 49 of the customer station where the next customer to be serviced

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is located. The queuing indicator operates in a manner later explained and assures that the service provider can service the customers in the order that they approached the customer stations.

As shown in Figure 8 SP station 14 further includes other components which are tailored to the particular types of transactions being performed. As shown in Figure 8 the SP station 14 includes a working surface 56 which provides the service provider room to review and prepare materials associated with the transactions.

The SP station 14 further includes storage drawers 58 and open storage locations 60 for items that the service provider may need while performing their work. As the embodiment of the system 10 is intended for use in a banking environment the SP station 14 further includes a currency bill dispensing device 62. Currency dispensing device 62 is of a known type which dispenses bills and coinage to the service provider in amounts requested. This avoids the need for the service provider to count amounts of money when needed for delivery to a customer. The service provider station further includes a built in safe generally indicated 64 which provides secure storage for valuable items, such as checks and currency.

It should be understood that other embodiments of the invention may include different or additional devices at the SP station which are needed in the particular transaction environment in which the system is used. These may include, for example, credit card authorization devices, ticket printers, betting slip printers, stamp dispensers, chip dispensers, medicine dispensers or other items which are needed to carry out the particular types of transactions required in the environment in which the system is used.

Figure 9 shows an alternative service provider station 66 for use in embodiments of the invention. Alternative SP station 66 is similar to SP station 14 except that it includes additional carrier delivery and receiving terminal devices 28. The alternative SP station 66 also includes additional displays 42, cameras 44, and communication selector units 46. The alternative SP station 66 is arranged for a system where two service providers may share a single currency dispensing device 62. Alternatively, SP station 66 may be used by a single service provider who operates all of the components thereon.

It should be understood however, that while the SP stations 14 and 66 have been shown as having two customer stations 18 associated with a single display and communication selector unit, in other embodiments other numbers of customer terminals may be configured to be serviced from a single selector unit by a service provider. The configuration of the system may be tailored to the transaction environment in which it is used.

The preferred embodiment of the customer stations 18 is shown in greater detail in Figures 1 through 7. Customer station 18 is positioned on a wall 38 of building 12. Although wall 38 can be virtually any wall, an advantage of the preferred embodiment of the invention is that wall 38 is an interior wall which may be a facade with very limited room behind it. This enables positioning the customer stations in ways that maximize available space within the interior of the building.

Customer station 18 includes a cover 68 which in the operative position of the station abuts wall 38 as shown. As later explained, cover 68 is moveable in the preferred embodiment so as to provide access for servicing the components of the customer station.

Cover 68 has thereon a customer interface area 70 which is shown in greater detail in Figure 4. The customer interface area includes a carrier opening 72 which extends through the cover 68. The pneumatic tube carrier delivery and receiving terminal device 24 is accessible through opening 72 in the operative position of cover 68. Carrier delivery and receiving terminal device 24 operates to send and receive carriers 26 through the pneumatic tube system 22, to and from the service provider terminal. Carrier delivery and receiving terminal device 24 includes a control panel 76 with buttons thereon so that a customer may control the operation of blowers 32 and 34 in the manner previously explained to send a carrier from the customer station to the SP station. Control panel 76 preferably also includes a button that a customer can press to call the service provider at the service provider station.

Customer interface area 70 of cover 68 further includes a screen access opening 78. In the operative position of the customer station, a visual display 80 is enabled to be viewed by the customer through the screen access opening 78 in the cover 68. Interface area 70 further includes a camera viewing opening 82. Camera viewing opening 82 is positioned so that in operative position of the customer station a CCTV camera 84 (see Figure 5) is enabled to view the customer through opening 82 in the cover.

Customer interface area 70 of the preferred embodiment further includes an accessory opening 85. An audio transmitting and receiving device 86 is positioned in accessory opening 85. In the preferred embodiment of the invention the audio transmitting and receiving device 86 is a telephone type handset. The customer at the customer station 18 is enabled to communicate with a service provider at the SP station through the handset. This provides added privacy. A microphone and speaker are also preferably built into terminal

device 24 and may be used to communicate with the customer when the handset is not in use. In the preferred embodiment the handset is in connection with a switch which operates to switch audio communication from the microphone and speaker to the handset when the handset is raised and to return to the microphone and speaker when the handset is replaced.

5 The handset switch is also preferably used to signal the service provider in a manner similar to the "call button" on the control panel 76 when the customer first approaches the customer station. Of course, in alternative embodiments, the handset may be deleted and/or other types of microphone and speaker arrangements may be used.

10 In the preferred embodiment of the customer station 18 the carrier opening 72 and the accessory opening 85 are positioned in mirror image relation on the cover 68. This enables the positions of the terminal device 24 and the audio transmission and receiving device 86 to be reversed from those shown in Figure 4. Alternatively, in customer stations that do not have one of these components the unused opening may be closed by an insert attached to the cover.

15 The customer interface area 70 further includes a shelf 88. Shelf 88 provides a horizontal work surface for the customer which facilitates carrying out transactions at the customer station. Shelf 88 provides a location for the customer to hold articles as well as to sign documents or make notes. A plurality of storage locations 90 are shown positioned underneath shelf 88 in the customer interface area. Storage locations 90 are used in the  
20 embodiment shown for holding documents that a customer may need for carrying out a banking transaction. These include for example, deposit tickets or other form banking documents that may be used by numerous customers.

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The embodiment of the invention shown further includes a sensor 92 in the customer interface area 70. Sensor 92 is preferably an optical type sensor or other sensor which is operative to sense that a customer is present at the customer station 18. In the embodiment of the invention shown, sensor 92 is operatively connected to the indicator on the communication selector unit 46 at the service provider station. When a customer is detected adjacent to the customer station by the sensor 92 an indication is given to the service provider through an indicator on the selector unit 46. The sensor is also in connection with the queuing indicator 47 which indicates to the service provider on its display the customer station where the next customer to be serviced is located.

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Other approaches to notifying the service provider may also be used. For example, when the customer picks up the handset which comprises the audio transmitting and receiving device 86 the service provider may be similarly provided with an indication that a customer is present at the customer station 18 and is ready to conduct a transaction. The customer may also notify the service provider by pressing the "call button" on the control panel 76 of terminal device 24. Written instructions may be provided in the customer interface area 70 to instruct the customer on what to do to contact the service provider when they are ready to begin a transaction. This may also include sending documents to the service provider in the carrier.

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In the embodiment shown, the customer station is comprised of components which include camera 84, display 80, carrier terminal device 24 and audio transmission and receiving device 86. In other embodiments of the invention customer stations which include different or additional components may be used.



As shown in Figures 2 through 7, cover 68 is supported on a frame 94. Frame 94 is in supporting connection with wall 38. In the preferred embodiment the frame 94 is a conventional door frame which may be used for supporting a standard personnel door thereon. Frame 94 bounds an opening generally indicated 96 in wall 38. Frame 94 includes a first upright member 98 and a second upright member 100. Frame 94 also includes a header member 102 which extends between the upright members.

First upright member 98 has hinges 104 operatively connected thereto. Hinges 104 are operatively connected through fasteners which attach to frame 94 in the conventional hinge attaching areas of the door frame. Hinges 104 are operatively connected to cover 68. Hinges 104 enable cover 68 to be moved from a closing position to an open position.

In the closing position shown in Figures 1 and 2, cover 68 is in abutting relation with the wall 38 in which the frame extends. In the closing position cover 68 overlies the frame 94 and the opening 96 as well as a portion of the wall adjacent thereto.

Cover 68 is enabled to be moved by authorized personnel to rotate in connection with hinges 104. Once the cover is moved to an open position, opening 96 and the components of the customer station which are accessible through the opening may be accessed by the authorized personnel. In the preferred form of the invention, second upright member 100 includes a striker schematically indicated 106. The striker is enabled to selectively engage a locking mechanism on the cover 68. The locking mechanism is used to prevent unauthorized personnel from opening the cover.

As best shown in Figures 5, 6 and 7, a subframe 108 is attached to upright members 98 and 100. This is done in the preferred embodiment using conventional fasteners. This

construction enables subframe 108 to be in supporting connection with wall 38. Subframe 108 supports CCTV camera 84 which is mounted thereto through an adjustable mounting bracket. Subframe 108 further is in supporting connection with visual display 80 which is also mounted in a manner which enables it to be movably positioned relative to the subframe.

5 Subframe 108 is further in supporting connection with carrier and delivery device 24. These components of the customer station which are in supporting connection with the wall 38 through the frame 94 and subframe 108, are rendered accessible by opening cover 68 which facilitates the servicing thereof. Opening cover 68 also enables servicing components such as the handset which serves as the audio transmitting and receiving device 86, as well as the

10 sensor 92, both of which are preferably mounted in supporting connection with the cover 68.

As can be appreciated from the foregoing description, the components of the customer station may all be accessed by opening cover 68. In the preferred embodiment there is no requirement that rear access to the customer terminal be provided. As a result, wall 38 may be in close proximity to other objects such as a fixed wall, which enables maximizing

15 available floor space in the customer area. In addition, cover 68 is preferably provided with mounting areas which enable it to be attached by fasteners to hinges in either a left or right hand opening configuration. This further enables optimization of available space.

A novel aspect of the preferred embodiment is that the customer station is built around a door frame. This enables a facility to be constructed with walls having standard

20 door openings which can be later modified to become customer stations. If an operator of a facility does not wish to have all customer stations installed initially, the frames may be fitted with conventional doors until such time as customer stations are to be installed. In addition,

because customer stations of the preferred embodiment do not require rear access, they may be installed in locations that may have been originally provided for closets or other storage. This enables ready conversion of another type facility to include the stations. Customer stations may be installed in other areas from which no rear access is provided such as in building corners. Because the carrier tubes 30 as well as the electrical wiring connections with the customer stations 18 can extend in any direction from the customer stations, either overhead or underfloor, the preferred embodiment of the present invention may be readily installed in numerous locations to facilitate the conduct of transactions.

In operation of the transaction system of the described embodiment, the displays 80 of the customer stations 18 are generally used to present video material when the stations are not being operated by a customer. Video program material (and audio as well if desired) is stored in the data store of the computer which serves as the video presentation device 50. The displays 80 of customer stations 18 are provided with signals representative of the video and/or audio material from the computer through the video switching device 48. As previously discussed, the video or audio presentation material in the video presentation device may be periodically or otherwise updated from a local or remote location using data transmission line 52 and communication device 54.

As shown in Figure 12 in a preferred form of the system additional video and/or audio monitors 110 are provided to display the material from the video material presentation device. Monitors 110 may be positioned in the building 12 which houses the system either in the secure area where the service provider is located, in the customer transaction area, or both. Monitors 110 enable service providers to review the information that is being

presented in the event they are questioned by a customer about it. In addition, customers who may not be interested in conducting a transaction or who have already completed a transaction may be interested in reviewing the material being presented. The installation of monitors 110 in the customer area enables customers to easily do this without occupying a customer terminal 18.

Continuing with the description of an exemplary transaction, a customer approaches a customer station 18 and is sensed by sensor 92. This causes an indicator to flash at the service provider's communication selector unit 46. Alternatively, a customer may pick up the handset on the customer station or press the "call button" on terminal 28 to provide a similar indication to the service provider. The signal from the customer station is also received at queuing device 47. The queuing device 47 preferably includes a timing device, such as a processor which notes a relative or real time of the customer's arrival and stores the information in a memory in connection with the processor in device 47. The queuing device preferably generates an order for servicing customers based on a time sequence in which customers arrived at the customer stations. The processor is operative to generate on the display 49 an indication of the next customer station to be serviced based on the order which includes data representative of the station where the next to arrive customer is positioned. This tells the service provider which customer should be serviced next.

The service provider provides an input to unit 46 to select the customer station where the customer is present. The communication controller operates in response to the input to establish two way video and audio communication with the station where the customer is present. When the service provider establishes this two way audio and video communication

the video switching device 48 operatively disconnects the display and audio output devices at the customer station from the video presentation device 50.

The queuing device 47 which is also in operative connection with the selector unit 46, deletes or otherwise changes the order data responsive to the input which places the service provider station and the customer station in communication. As a result of the modification of the order data the display 49 no longer displays the number or other designator for the customer station the service provider has now selected, and displays the designator for the customer station where the "next" customer is waiting, if another customer is present. The queuing indicator is operative not to place the customer station in the order again while the SP station is in communication with the customer station.

By communicating with the customer the service provider can answer the customer's questions and can help the customer to conduct a transaction. If the customer is not ready to proceed, the service provider may operate the communication selector unit 46 at the SP station 14 to disconnect audio and video communication with that particular customer station, and may proceed with another customer's transaction by establishing communication with another customer station. Often the customer at the first station will be instructed to insert documents into a carrier 26 and to transmit the carrier to the service provider using the carrier delivery and receiving terminal device 24 on the customer station. As a result, while the customer is getting documents ready to insert in the carrier and to transmit them in the carrier, the service provider may be conducting other transactions for other customers. The service provider will know that the customer at the customer station is ready to move

forward when the carrier arrives at the service provider carrier delivery and receiving terminal device 28.

The service provider disconnects the audio and visual communication between a customer station and the service provider station through an input to selector unit, such as by pushing a button. The signals from the service provider's selector unit 46 are transmitted to the communication controller which operates the video switching device 48. Video switching device 48 operatively reconnects the display 80 on the customer station with the video material presentation device 50. As a result the promotional or other material stored therein will be presented to the customer during portions of the transaction.

In certain embodiments the computer or other apparatus which serves as the video material presentation device may run in a single output mode continuously, sending the same information simultaneously to all the customer stations. However, in alternative embodiments, multiple output channels may be provided so special material may be presented while the customer is conducting a transaction. These special presentations may be specifically tailored to matters which are expected to be of interest to a customer. The computer may be programmed to provide multiple output channels which are controlled through the communication controller so that the presentation to the customer picks up at the point the presentation was interrupted by the service provider connecting the audio and visual link between the service provider station and the customer station. This increases the probability that the customer will view the entire presentation. Of course, in other embodiments other arrangements may be used such as providing a "transaction in progress" screen at the customer terminal while the customer is waiting for a response from the service

provider, or connecting the signal from the camera 84 at the customer station to the display 80 at the same station so that the customer sees himself or herself (as well as perhaps a portion of the area behind them) while a transaction is in progress. These and other options can be achieved by those skilled in the art based on the disclosure herein through the programming of the video switching device 48 and video material presentation device 50.

The transmission of carrier 26 through the carrier tube 30 is achieved by differences in air pressure produced by blowers 32 and 34 which are connected at the ends of each tube. The blowers are controlled by the customer at the customer terminal and the service provider at the service provider terminal by actuating the buttons on the control panels 76 and 40 respectively. These control panels are connected to blower controllers 112 which cause the blowers to operate in the manner desired to move the carrier between the customer and service provider terminals.

Transactions carried on using the system of the invention may include the transmission of documents or other items between the customers and service providers using the carriers 26. Transactions also include the exchange of information between the customers and the service providers. This may enable the service provider to instruct the customer on how to operate other devices or otherwise obtain what is required on a self service basis. In addition, the direct communication that is available between the customer and the service provider enables the service provider to verify customer information or identification by directly viewing the customer. The system is particularly useful for providing services to individuals having disabilities who may need assistance or other information.

1  
The method for audio communication in the preferred embodiment of the customer station 18 which includes external microphone and speakers with an optional handset provides enhanced security for audio communications that are exchanged between customers and service providers. The semicircular configuration of the customer interface area 70 of the preferred embodiment limits the ability of nearby customers to observe activities that are being conducted at a terminal. This enables the spacing of customer terminals of the preferred embodiment to be in close proximity while minimizing the concern that confidential information may be intercepted.

When a customer has finished a transaction he/she may remain at the customer station for a time to review or put away items. The queuing indicator 47 preferably has its processor programmed to require sensor 92 at the customer station to clear and no longer sense a customer and then subsequently sense another customer before again including in the order data representing that a new customer is present at the customer station. The programming of the processor in the queuing device preferably requires the sensing condition to exist for a period of time after the customer station senses a new customer, before the customer station is again added into the service order generated by the queuing device. This increases the reliability of the queuing indicator.

The system of the present invention in addition to providing flexibility for a wide variety of customer transactions, also provides enhanced security for the service provider.

Because the service provider is located in a secure area of the building, service providers are less susceptible to robbery or physical harm. This can be very important where transactions



involving significant amounts of cash are involved, such as in gaming or banking establishments.

The embodiment of the system which includes the video and/or audio presentation device 50 enables the presentation of promotional material to the customers. Providing additional information often serves to increase customer satisfaction and can also result in increasing the number of transactions carried out. Such a system may further provide customers with directions on how to operate the customer stations or with other activities which are carried out in the facility. Alternatively, device 50 may transmit real time signals from another source. This may be particularly desirable in gaming establishments.

Alternative embodiments of the system may include features that enable customers to selectively access information. For example, displays 110 in the customer area may be provided with customer input devices such as a touch screen interface. Such an interface may be operated in conjunction with the material presentation device 50 so as to enable the customer to access specific types of information that are of interest to the customer. The customer may do this by selecting items of information that are presented on a touch screen. Alternatively, or in addition, touch screen interfaces may be provided at the customer stations 18 if it is desired to enable customers to access information in that manner. However, in systems where high speed processing of transactions is desired, it may often be advantageous to limit customer inquiries to separate terminal stations at which a customer's inquiry will not impede the conduct of other transactions.

Thus, the new transaction system of the present invention achieves the above stated objectives, eliminates difficulties encountered in the use of prior devices and systems, solves

problems, and attains the desirable results described herein. In the foregoing description, certain terms have been used for brevity, clarity and understanding, however no unnecessary limitations are to be implied therefrom because such terms are used for descriptive purposes and are intended to be broadly construed. Moreover, the descriptions and illustrations herein are by way of examples and the invention is not limited to the exact details shown or described.

In the following claims, any feature described is a means for performing a function shall be construed as encompassing any means capable of performing the recited function and shall not be deemed limited to the particular means shown performing the function in the foregoing description, or mere equivalents thereof.

Having described the features, discoveries, and principles of the invention, the manner in which it is constructed and operated and the advantages and use of results attained; the new and useful, structures, devices, elements, arrangements, parts, combinations, systems, equipment, operations, methods and relationships are set forth in the appended claims.

## CLAIMS

We claim:

1. A system comprising:

a service provider (SP) station including:

an SP visual display,

an SP CCTV camera,

an SP audio transmitting device and an SP audio receiving device,

an SP pneumatic tube carrier delivery and receiving device, and

at least one customer station including:

a customer visual display, wherein the customer visual display is

in operative connection with the SP CCTV camera,

a customer CCTV camera in operative connection with the SP display,

a customer audio transmitting device and a customer audio receiving device in operative connection with the SP audio receiving device and SP audio transmitting device, respectively, and

5 a customer pneumatic tube carrier delivery and receiving device in operative connection with the SP pneumatic tube carrier delivery and receiving device, wherein a carrier is enabled to be selectively moved between the customer station and the SP station.

10 2. A system according to claim 1 and further comprising a building, wherein said building comprises a wall, wherein said SP station is housed in said building, and wherein at least one component among said customer visual display, customer CCTV camera, customer audio transmitting device, customer audio receiving device and customer carrier device of the customer station is in supporting connection with said wall.

15 3. A system according to claim 2 wherein said building wall is an interior wall.

4. A system according to claim 2 wherein said customer terminal comprises a frame, and wherein said wall comprises an opening, and wherein said frame is in supporting connection with said wall and extends in said opening, and wherein at least one of said

customer visual display, customer CCTV camera, customer audio transmitting device, customer audio receiving device, or customer carrier device is in supporting connection with the frame.

5. A system according to claim 4 wherein the customer terminal further comprises a cover, and wherein the cover is movably mounted on the frame, and wherein the cover is movable to enable access to the opening.

6. A system according to claim 2 wherein said customer terminal further comprises a cover, and wherein the cover is movably mounted in supporting connection with the wall, and wherein in a first position the cover overlies at least one component among the customer visual display, customer CCTV camera, or customer carrier device, and wherein said cover includes at least one opening, wherein the one component is manually accessible whereby it is enabled to be operated by a customer in the first position of the cover, and wherein in a second position said cover is disposed from said one component and said component is rendered accessible for servicing.

7. A system according to claim 4 wherein said frame comprises a door frame.

8. A system according to claim 7 and further comprising at least one hinge operatively connected to said door frame, and wherein said cover is movably mounted relative to said frame through said hinge.

9. A system according to claim 4 wherein said frame bounds the opening, and further comprising a subframe in supporting connection with said frame, and wherein said subframe extends in said opening, and wherein at least one of said customer visual display, said customer CCTV camera, or said customer carrier device is in supporting connection with the subframe.

10. A system according to claim 6 wherein the cover includes a generally horizontally extending shelf, whereby a customer is enabled to conduct writing or other activities on said shelf.

11. A system according to claim 6 wherein the cover includes at least one storage location, wherein articles are enabled to be stored in the storage location.

12. A system according to claim 1 wherein the system comprises a plurality of customer stations, and wherein the SP station is in operative connection with a communication selector device, and wherein the video and audio connection between the SP station and one of said customer stations responsive to an input to the communication selector device.

13. A system according to claim 12 wherein at least one customer station comprises a sensor, wherein said sensor is operative to sense a person positioned adjacent the customer station, and wherein the SP station includes an indicator in operative connection with the

sensor wherein an indication is given at the SP station of the presence of the person adjacent the customer terminal.

14. A system according to claim 1 and further comprising a video switching device in operative connection with the SP station, and wherein the video switching device is operative to selectively establish video connections between the SP CCTV camera and the customer video display on the customer station.

15. A system according to claim 14 wherein the system further comprises a video material presenting device, wherein the video material presenting device is operative to generate video signals, and wherein the video switching device is in operative connection with the video presenting device, and wherein the video switching device is operative to selectively connect the video material presenting device to the customer visual display.

16. A system according to claim 15 wherein the video switching device is operative to selectively connect the customer visual display to either the video material presenting device or the SP CCTV camera.

17. The system according claim 16 wherein said video material presenting device comprises a computer, and wherein the computer is in operative connection with a data store, and wherein the data store includes data representative of video material, and wherein the

computer is in operative connection with a data transmission line, and wherein the video material is changeable through said data transmission line.

18. The system according to claim 3 and wherein the building includes a secure room, and wherein the SP station is housed in the secure room, and wherein said customer station is disposed outside of said secure room.

19. The system according to claim 18 wherein the system further comprises a plurality of customer stations in the building, each of said customer stations in operative connection with the SP station.

20. The system according to claim 2 wherein the customer station is produced by a method comprising the steps of:

producing an opening in said wall,

positioning a frame in said opening in supporting connection with the wall, and

positioning said at least one component in supporting connection with the frame.

21. The system according to claim 20 and wherein said customer station further comprises a cover, the method of producing the customer station further comprising the step of



movably mounting the cover in supporting connection with the wall, wherein the cover is movable between a first position overlying the opening and a second position wherein the cover is disposed from the opening.

22. The system according to claim 21 wherein the step of movably mounting the cover comprises operatively connecting the cover to the frame through a hinge.

23. The system according to claim 21 wherein in the first position of the cover is in abutting relation with said wall and generally extends in surrounding relation of said frame.

24. The system according to claim 1 wherein the system comprises a plurality of customer stations in operative connection with the SP station, and wherein each customer station includes a device actuatable by a customer at a customer station, and wherein the system further includes a queuing device at the SP station, and wherein the queuing device is in operative connection with each customer actuatable device, and wherein the queuing device is operative to generate an order wherein said order includes data representative of a time sequence in which the actuatable devices at the customer stations were actuated, and wherein said queuing device is operative to indicate data responsive to said order.

25. The system according to claim 24 wherein the SP station further includes a communication selector unit, and wherein said system is operative responsive to inputs to said selector unit to selectively place the SP station in video and audio communication with

one of the customer stations, and wherein the selector unit is in operative connection with the queuing device, and wherein the queuing device is operative to remove from the order the data representative of the one customer station responsive to the selector unit operating to place the one customer station and the SP station in communication.

5 26. The system according to claim 25 wherein the customer actuatable device comprises a customer presence sensor, and wherein said queuing device is operative to defer placing data representative of said one customer station in said order while said SP station and said one customer station are in video and audio communication.

10 27. The system according to claim 26 and wherein said queuing device is operative to place data representative of the one customer station in the order again after the customer presence sensor ceases to sense the customer adjacent the one customer station subsequent to the one customer station and SP station being in communication, and thereafter again senses a customer.

## ABSTRACT

A system for carrying out transactions (10) includes customer stations (18) and a service provider station (14). The system is operated in a building (12) or other facility in which a service provider operates the service provider station in a secure room (36). Audio and video communications are established between customers at the customer stations and the service provider at the service provider station. Items are exchanged between customers and the service provider through carriers (26) transmitted through a pneumatic tube system (22). A video material presentation device (50) provides promotional or other video material which is presented on displays at the customer stations. Video material is presented to customers when the customer terminal is not in communication with the service provider terminal. The customer stations are readily installed and configured in the transaction facility to maximize the floor space available for other purposes.

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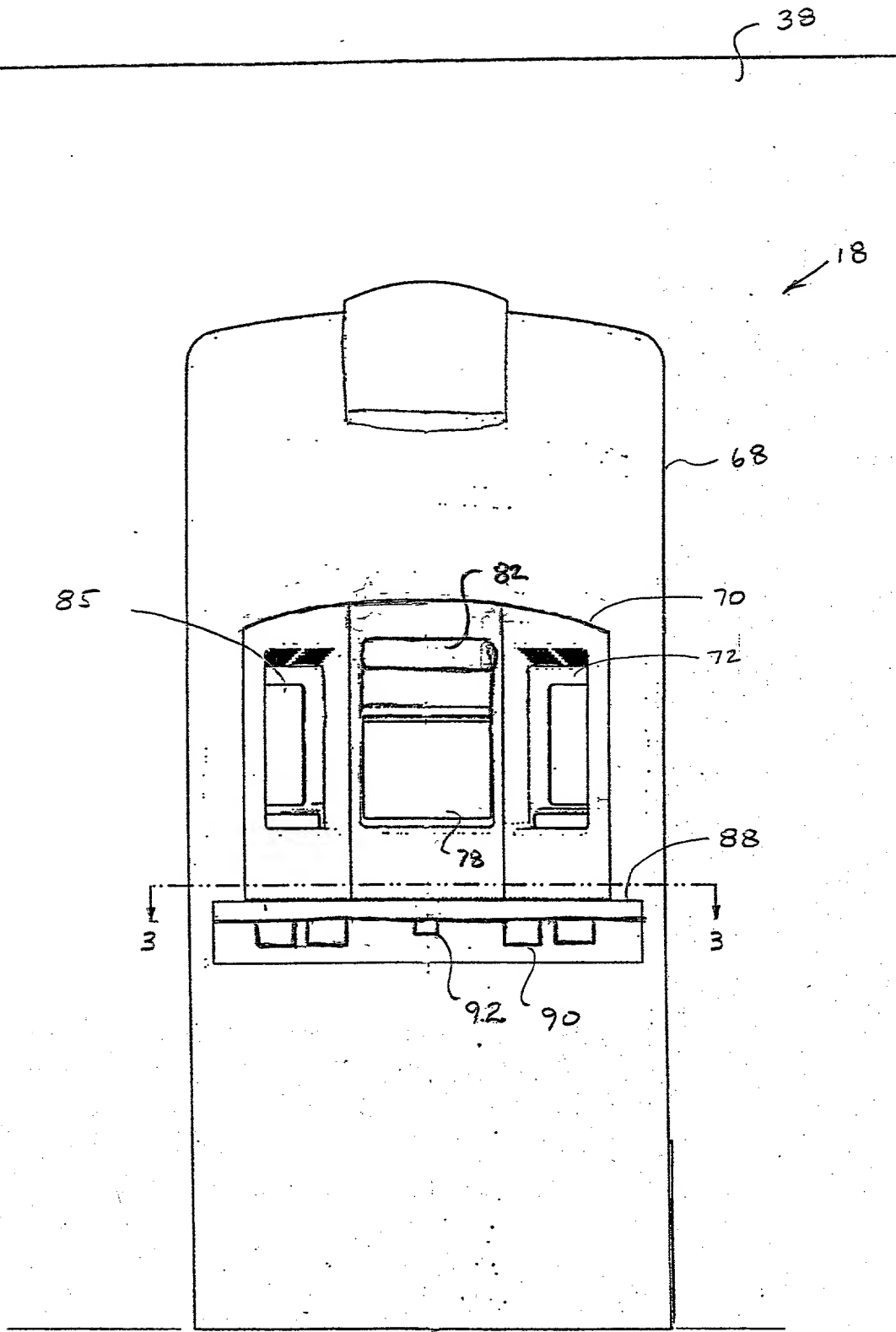


FIG 1

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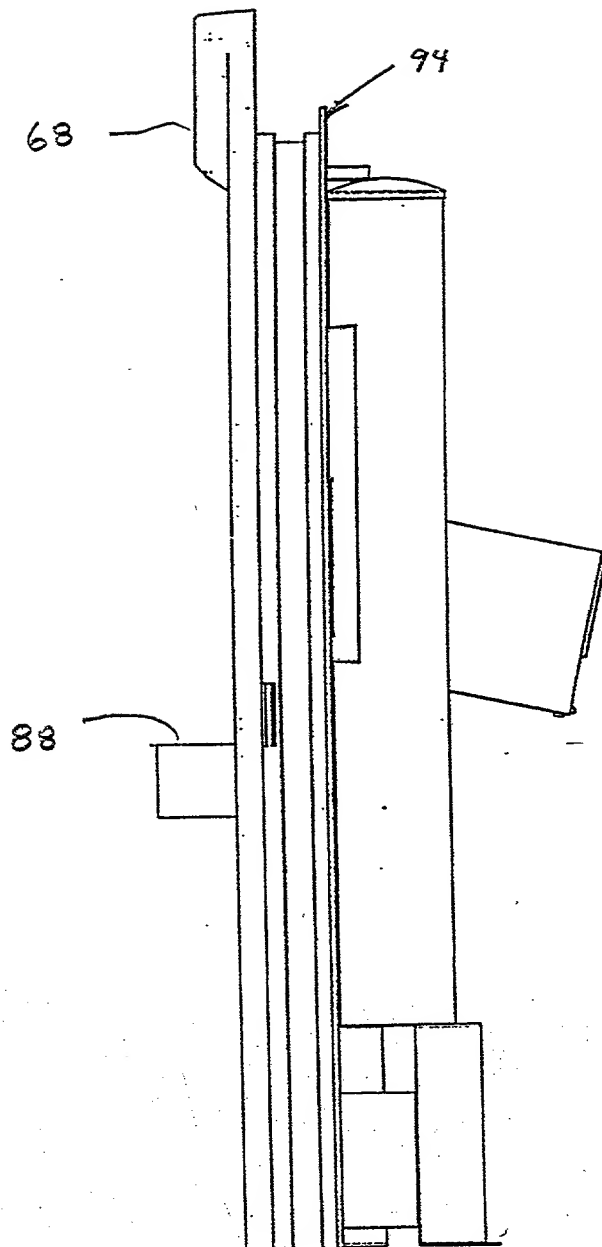


FIG 2

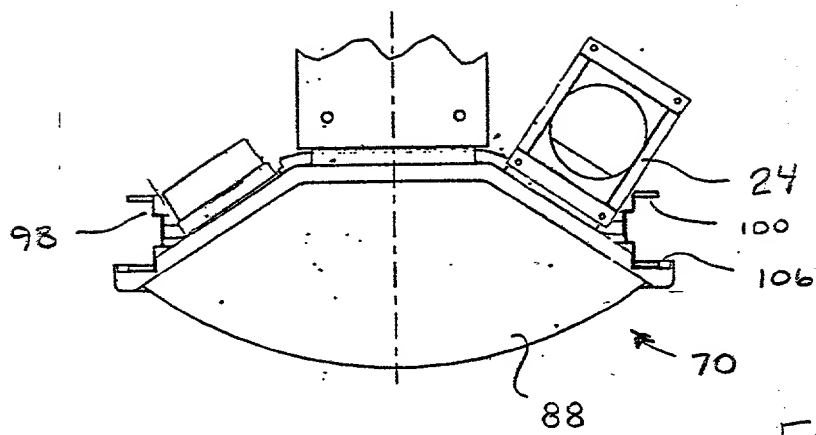


FIG 3

Fig 4

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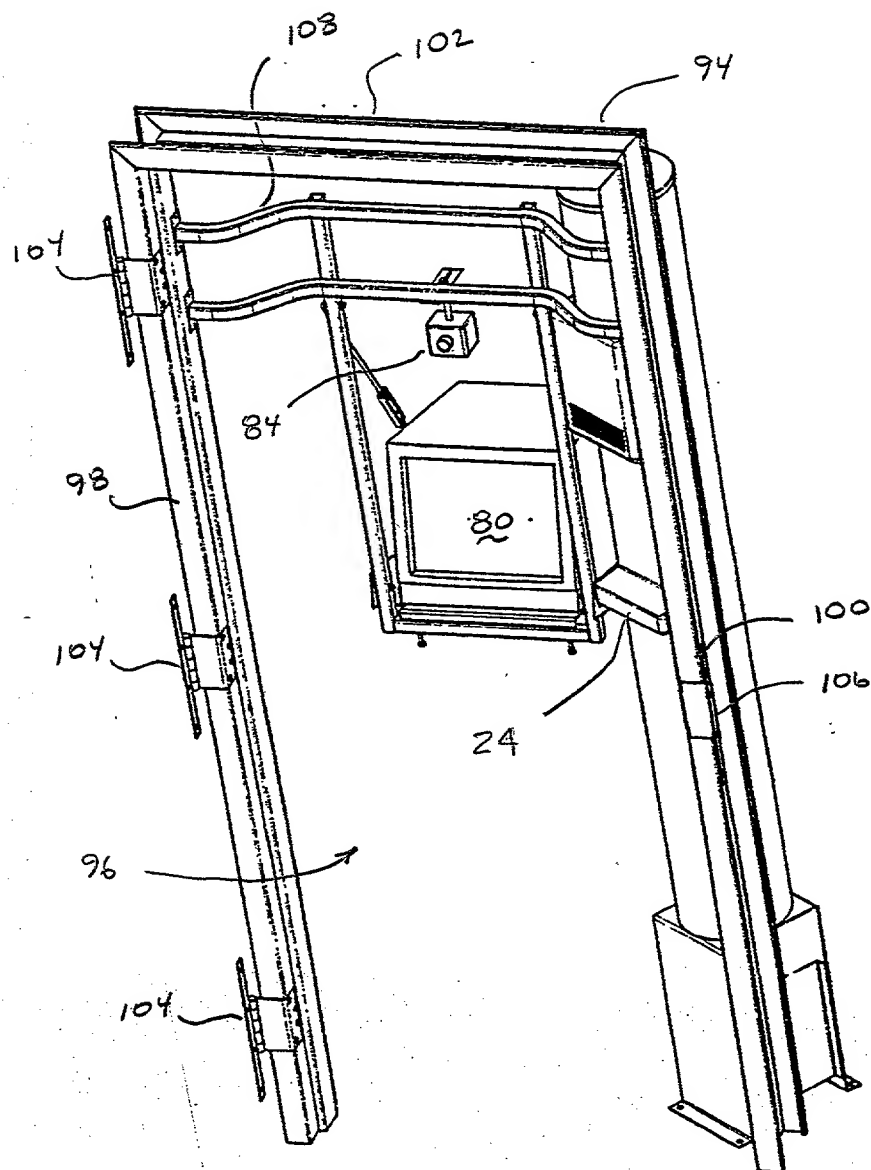


FIG 5



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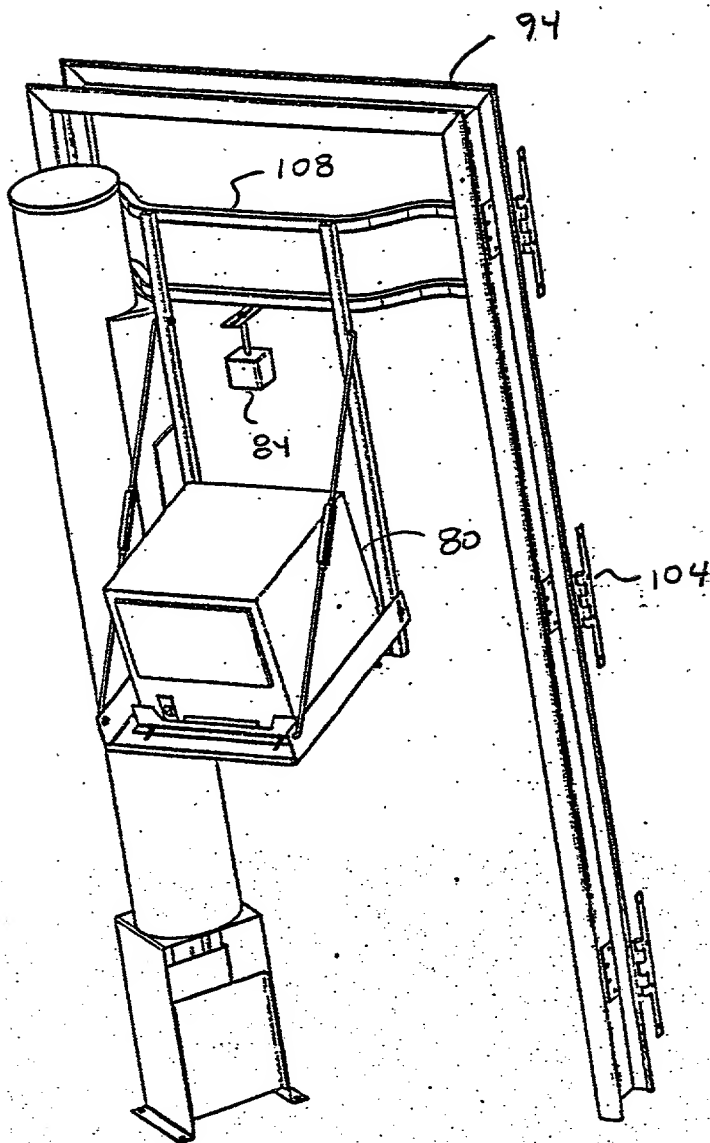


FIG 6

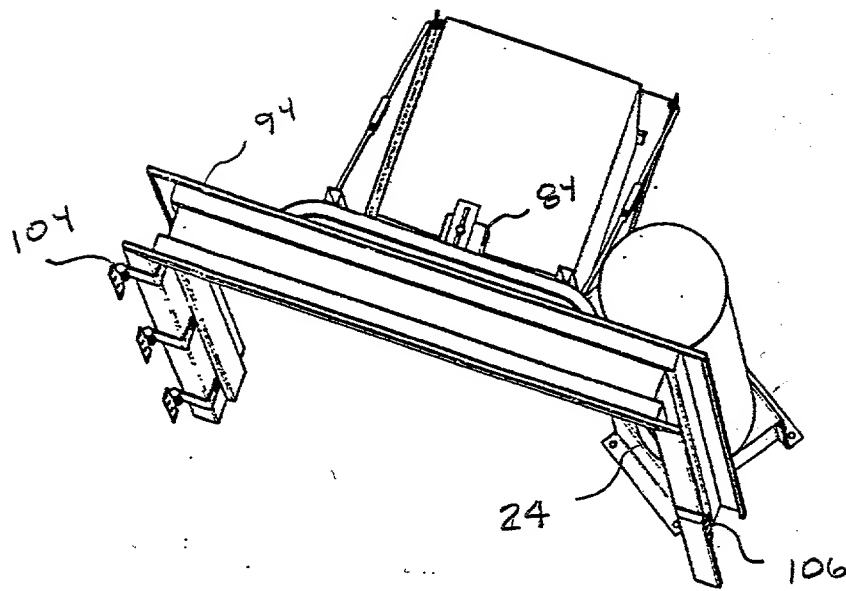


FIG 7

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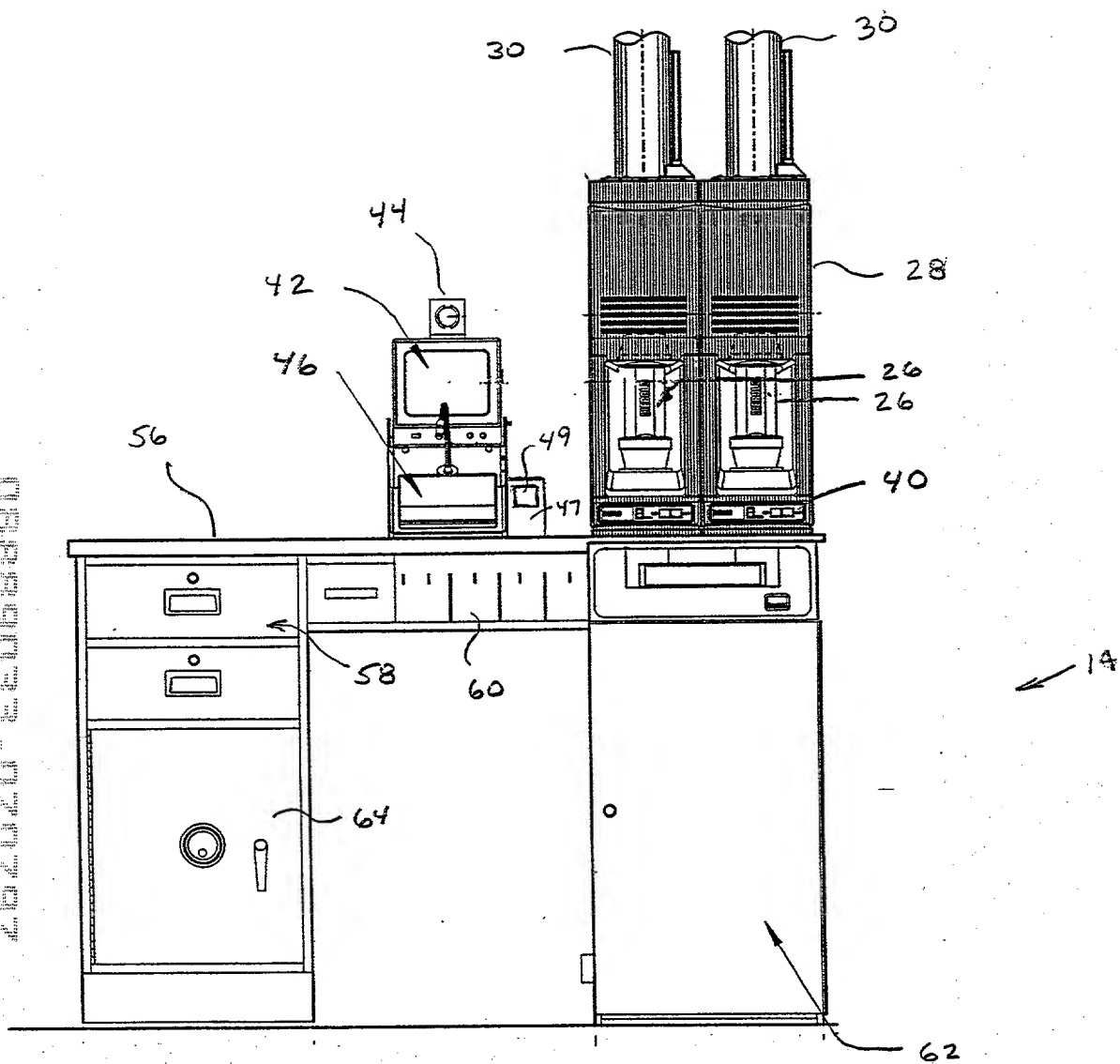


FIG 8

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FIG 9

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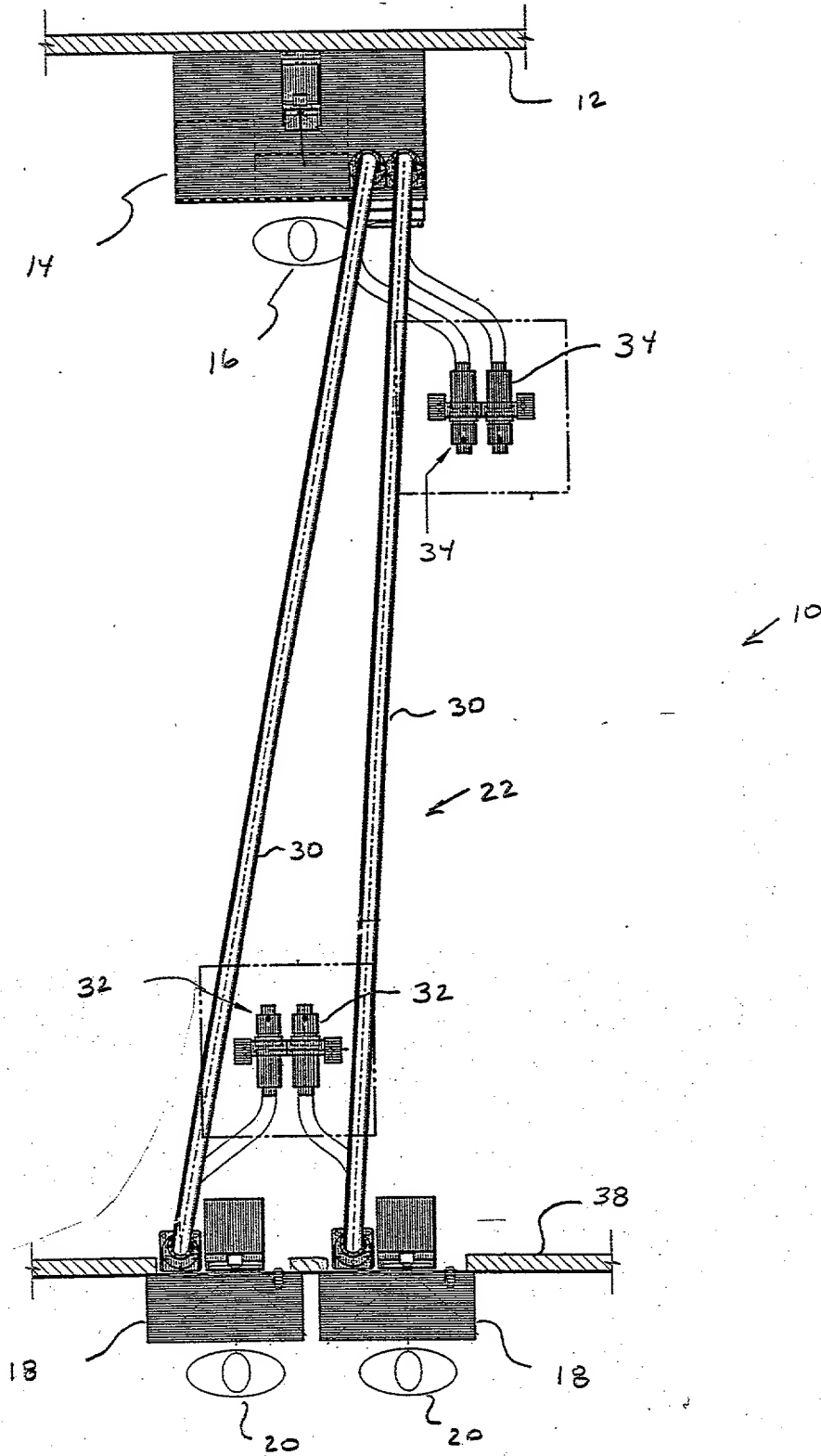


FIG 10

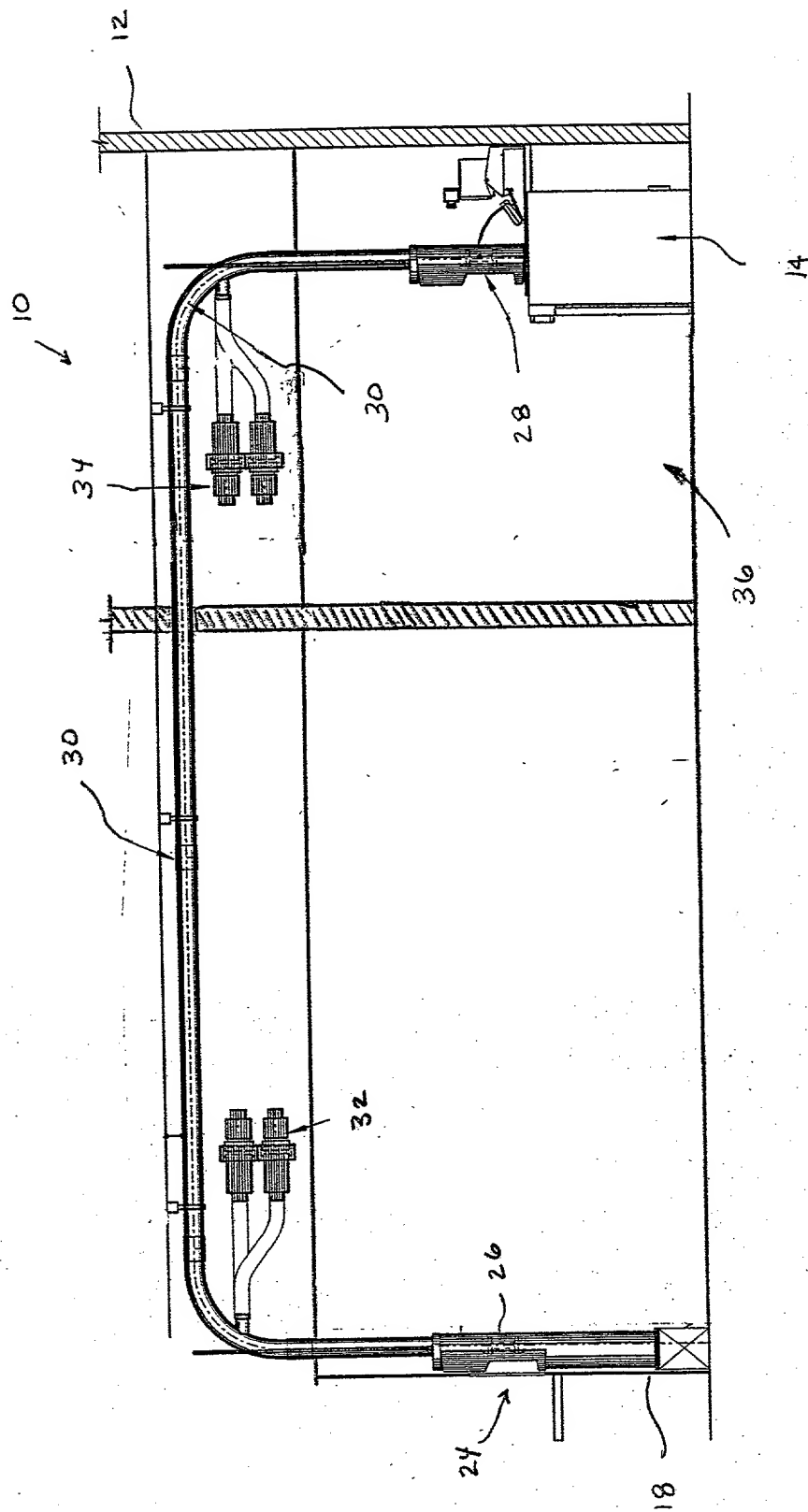
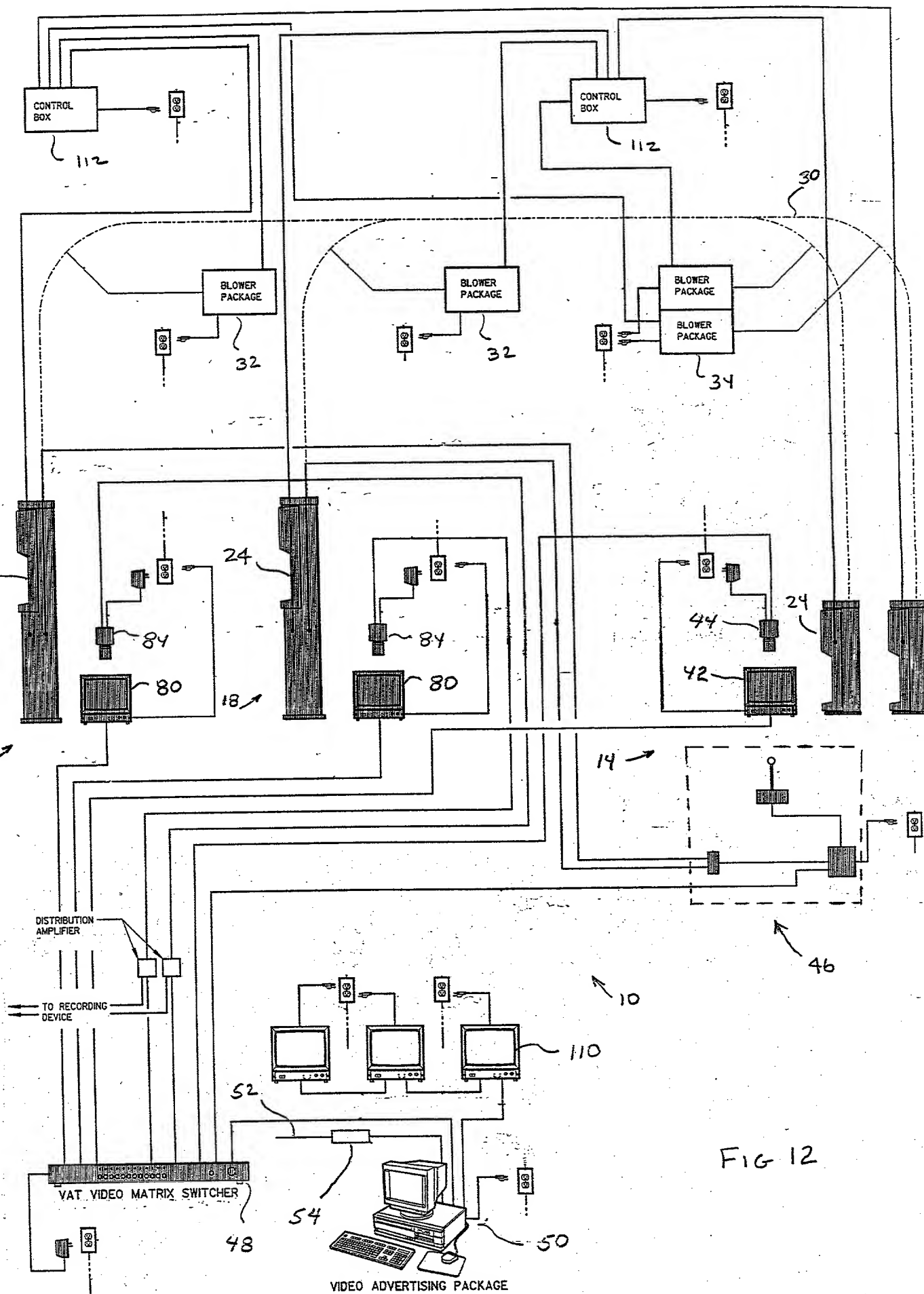


FIG 11



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**COMBINED DECLARATION AND POWER OF ATTORNEY**

(ORIGINAL, DESIGN, NATIONAL STAGE OF PCT, SUPPLEMENTAL, DIVISIONAL,  
CONTINUATION OR C-I-P)

---

As a below named inventor, I hereby declare that:

**TYPE OF DECLARATION**

This declaration is of the following type:

*(check one applicable item below)*

- ☒ original.
- ☐ design.
- ☐ supplemental.

**NOTE:** If the declaration is for an International Application being filed as a divisional, continuation or continuation-in-part application, do not check next item; check appropriate one of last three items.

- ☐ national stage of PCT.

**NOTE:** If one of the following 3 items apply, then complete and also attach ADDED PAGES FOR DIVISIONAL, CONTINUATION OR C-I-P.

- ☐ divisional.
- ☐ continuation.
- ☐ continuation-in-part (C-I-P).

**INVENTORSHIP IDENTIFICATION**

**WARNING:** If the inventors are each not the inventors of all the claims, an explanation of the facts, including the ownership of all the claims at the time the last claimed invention was made, should be submitted.

My residence, post office address and citizenship are as stated below, next to my name. I believe that I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter that is claimed, and for which a patent is sought on the invention entitled:

**TITLE OF INVENTION**

---

Transaction System

---



## SPECIFICATION IDENTIFICATION

the specification of which:

(complete (a), (b) or (c))

(a) ☒ is attached hereto.

NOTE: "The following combinations of information supplied in an oath or declaration filed on the application filing date with a specification are acceptable as minimums for identifying a specification and compliance with any one of the items below will be accepted as complying with the identification requirement of 37 CFR 1.63:

"(1) name of inventor(s), and reference to an attached specification which is both attached to the oath or declaration at the time of execution and submitted with the oath or declaration on filing;

"(2) name of inventor(s), and attorney docket number which was on the specification as filed; or

"(3) name of inventor(s), and title which was on the specification as filed."

Notice of July 13, 1995 (1177 O.G. 60).

(b) ☐ was filed on \_\_\_\_\_, as ☐ Serial No. 0 / \_\_\_\_\_  
or ☐ \_\_\_\_\_  
and was amended on \_\_\_\_\_ (if applicable).

NOTE: Amendments filed after the original papers are deposited with the PTO that contain new matter are not accorded a filing date by being referred to in the declaration. Accordingly, the amendments involved are those filed with the application papers or, in the case of a supplemental declaration, are those amendments claiming matter not encompassed in the original statement of invention or claims. See 37 CFR 1.67.

NOTE: "The following combinations of information supplied in an oath or declaration filed after the filing date are acceptable as minimums for identifying a specification and compliance with any one of the items below will be accepted as complying with the identification requirement of 37 CFR 1.63:

"(1) name of inventor(s), and application number (consisting of the series code and the serial number; e.g., 08/123,456);

"(2) name of inventor(s), serial number and filing date;

"(3) name of inventor(s) and attorney docket number which was on the specification as filed;

"(4) name of inventor(s), title which was on the specification as filed and filing date;

"(5) name of inventor(s), title which was on the specification as filed and reference to an attached specification which is both attached to the oath or declaration at the time of execution and submitted with the oath or declaration; or

"(6) name of inventor(s), title which was on the specification as filed and accompanied by a cover letter accurately identifying the application for which it was intended by either the application number (consisting of the series code and the serial number; e.g., 08/123,456), or serial number and filing date. Absent any statement(s) to the contrary, it will be presumed that the application filed in the PTO is the application which the inventor(s) executed by signing the oath or declaration."

Notice of July 13, 1995 (1177 O.G. 60).

(c) ☐ was described and claimed in PCT International Application No. \_\_\_\_\_, filed on \_\_\_\_\_ and as amended under PCT Article 19 on \_\_\_\_\_ (if any).

## ACKNOWLEDGEMENT OF REVIEW OF PAPERS AND DUTY OF CANDOR

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information, which is material to patentability as defined in 37, Code of Federal Regulations, § 1.56,

*(also check the following items, if desired)*

- ☐ and which is material to the examination of this application, namely, information where there is a substantial likelihood that a reasonable Examiner would consider it important in deciding whether to allow the application to issue as a patent, and
- ☐ in compliance with this duty, there is attached an information disclosure statement, in accordance with 37 CFR 1.98.

### PRIORITY CLAIM (35 U.S.C. § 119(a)-(d))

I hereby claim foreign priority benefits under Title 35, United States Code, § 119(a)-(d) of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed.

*(complete (d) or (e))*

- (d) ☒ no such applications have been filed.
- (e) ☐ such applications have been filed as follows.

NOTE: Where item (c) is entered above and the International Application which designated the U.S. itself claimed priority check item (e), enter the details below and make the priority claim.

**PRIOR FOREIGN/PCT APPLICATION(S) FILED WITHIN 12 MONTHS  
(6 MONTHS FOR DESIGN) PRIOR TO THIS APPLICATION  
AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. § 119(a)-(d)**

COUNTRY (OR INDICATE IF PCT)	APPLICATION NUMBER	DATE OF FILING (day, month, year)	PRIORITY CLAIMED UNDER 37 USC 119
			<input type="checkbox"/> YES    NO <input type="checkbox"/>
			<input type="checkbox"/> YES    NO <input type="checkbox"/>
			<input type="checkbox"/> YES    NO <input type="checkbox"/>
			<input type="checkbox"/> YES    NO <input type="checkbox"/>
			<input type="checkbox"/> YES    NO <input type="checkbox"/>

**CLAIM FOR BENEFIT OF PRIOR U.S. PROVISIONAL APPLICATION(S)  
(34 U.S.C. § 119(e))**

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below:

**PROVISIONAL APPLICATION NUMBER**

**FILING DATE**

60 / 045,794  
 / Express Mail Label No.  
 / TB830511869US

May 7, 1997

**CLAIM FOR BENEFIT OF EARLIER US/PCT APPLICATION(S)  
UNDER 35 U.S.C. 120**

- ☐ The claim for the benefit of any such applications are set forth in the attached ADDED PAGES TO COMBINED DECLARATION AND POWER OF ATTORNEY FOR DIVISIONAL, CONTINUATION OR CONTINUATION-IN PART (C-I-P) APPLICATION.

**ALL FOREIGN APPLICATION(S), IF ANY, FILED MORE THAN 12 MONTHS  
(6 MONTHS FOR DESIGN) PRIOR TO THIS U.S. APPLICATION**

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**NOTE:** If the application filed more than 12 months from the filing date of this application is a PCT filing forming the basis for this application entering the United States as (1) the national stage, or (2) a continuation, divisional, or continuation-in-part, then also complete **ADDED PAGES TO COMBINED DECLARATION AND POWER OF ATTORNEY FOR DIVISIONAL, CONTINUATION OR C-I-P APPLICATION** for benefit of the prior U.S. or PCT application(s) under 35 U.S.C. § 120.

**POWER OF ATTORNEY**

I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

*(list name and registration number)*

Ralph E. Jocke

Reg. No. 31,029

*(check the following item, if applicable)*

- ☐ Attached, as part of this declaration and power of attorney, is the authorization of the above-named attorney(s) to accept and follow instructions from my representative(s).

---

**SEND CORRESPONDENCE TO**

Ralph E. Jocke, Esq.  
231 South Broadway  
Medina, Ohio 44256

**DIRECT TELEPHONE CALLS TO:**  
*(Name and telephone number)*

Ralph E. Jocke, Esq.  
330-722-5143

---

**DECLARATION**

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

(Declaration and Power of Attorney [1-1]—page 5 of 7)

08890331070797

### SIGNATURE(S)

NOTE: Carefully indicate the family (or last) name, as it should appear on the filing receipt and all other documents.

#### Full name of sole or first inventor

Bartholomew J. Frazzitta  
(GIVEN NAME) (MIDDLE INITIAL OR NAME) FAMILY (OR LAST NAME)  
Inventor's signature *Bartholomew J. Frazzitta*  
Date May 15, 1997 Country of Citizenship U.S.A.  
Residence Akron, Ohio  
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Daniel S. McIntyre  
(GIVEN NAME) (MIDDLE INITIAL OR NAME) FAMILY (OR LAST NAME)  
Inventor's signature *Daniel S. McIntyre*  
Date May 15, 1997 Country of Citizenship U.S.A.  
Residence Uniontown, Ohio  
Post Office Address 11711 Meadow Lane, Uniontown, Ohio 44685

(check proper box(es) for any of the following added page(s)  
that form a part of this declaration)

- ☒ **Signature** for fourth and subsequent joint inventors. *Number of pages added*  
1.

\* \* \*

- ☐ **Signature** by administrator(trix), executor(trix) or legal representative for deceased or incapacitated inventor. *Number of pages added* \_\_\_\_\_.

\* \* \*

- ☐ **Signature** for inventor who refuses to sign or cannot be reached by person authorized under 37 CFR 1.47. *Number of pages added* \_\_\_\_\_.

\* \* \*

- ☐ Added page for **signature** by one joint inventor on behalf of deceased inventor(s) where legal representative cannot be appointed in time. (37 CFR 1.47)

\* \* \*

- ☐ Added pages to combined declaration and power of attorney for divisional, continuation, or continuation-in-part (C-I-P) application.

☐ Number of pages added \_\_\_\_\_

\* \* \*

- ☐ Authorization of attorney(s) to accept and follow instructions from representative.

\* \* \*

(if no further pages form a part of this Declaration,  
then end this Declaration with this page and check the following item)

- ☐ This declaration ends with this page.

Attorney's Docket No. D-1083

**ADDED PAGE TO COMBINED DECLARATION AND POWER OF  
ATTORNEY FOR SIGNATURE BY FOURTH AND SUBSEQUENT INVENTORS**

Full name of fourth joint inventor, if any

Mark a DePietro  
GIVEN NAME MIDDLE INITIAL OR NAME FAMILY (OR LAST NAME)

Inventor's signature Mark A. DePietro

Date May 15, 1997 Country of Citizenship U.S.A.

Residence Canton, Ohio

Post Office Address 3907 Harvard Avenue N.W., Canton, Ohio 44709

Full name of fifth joint inventor, if any

Jeffrey S. M Kalman  
GIVEN NAME MIDDLE INITIAL OR NAME FAMILY (OR LAST NAME)

Inventor's signature Jeffrey M. Kalman

Date May 15, 1997 Country of Citizenship U.S.A.

Residence Cleveland, Ohio

Post Office Address 1849 Cadwell Avenue, Cleveland, Ohio 44118

Full name of sixth joint inventor, if any

\_\_\_\_\_  
GIVEN NAME MIDDLE INITIAL OR NAME FAMILY (OR LAST NAME)

Inventor's signature \_\_\_\_\_

Date \_\_\_\_\_ Country of Citizenship \_\_\_\_\_

Residence \_\_\_\_\_

Post Office Address \_\_\_\_\_